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TRANSACTIONS
Conn. State Agricultural Society
1855.

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Sci 1625.3

The Gift of
Charles L. Flint, Esq.
Secretary of the
Massachusetts Board
of Agriculture.
Rec? Aug. 25.
1858.

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TRANSACTIONS

OF THE

Conn. State Agricultural Society,

FOR THE

YEAR 1855,

WITH THE

REPORTS OF THE COUNTY SOCIETIES

FOR THE SAME YEAR.

PUBLISHED BY ORDER OF THE EXECUTIVE COMMITTEE.

HARTFORD:
PRESS OF CASE, TIFFANY AND COMPANY.
1856.

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Sci 1625.3
1856, Aug. 25.
Gift of
Charles L. Flint,
Sec'y of the Mass. Board of Agric.

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OFFICERS

OF THE

Connecticut State Agricultural Society,

FOR THE YEAR 1855.

President.

SAMUEL H. HUNTINGTON, . . . HARTFORD.

Vice-Presidents.

CHARLES H. POND, ... MILFORD.
NATHANIEL B. SMITH, ... WOODBURY.
HORACE PITKIN, ... MANCHESTER.
BENAJAH IVES, ... CHESHIRE.
W. CLIFT, ... STONINGTON.
T. B. BUTLER, ... NORWALK.
CALVIN D. WILLIAMS, ... POMFRET.
ABRAHAM BEECHER, ... BETHLEM.
CHARLES HUBBARD, ... MIDDLETOWN.
E. H. HYDE, 2D, ... STAFFORD.

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Directors.

F. H. NORTH, ... New Britain.
E. B. BISHOP, ... New Haven.
E. HOUGH, ... Bridgeport.
ERASTUS WILLIAMS, . . . Norwich.
H. HAMMOND, ... West Killingly.
T. S. GOLD, ... West Cornwall.
B. MONTAGUE, ... Middletown.
R. B. CHAMBERLAIN, . . . Coventry.

Corresponding Secretary.

HENRY A. DYER, ... Brooklyn.

Recording Secretary and Treasurer.

JOHN A. PORTER, ... New Haven.

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ACT OF INCORPORATION.

At a General Assembly of the State of Connecticut, holden at New Haven in said State, on the first Wednesday of May, in the year of our Lord one thousand eight hundred and fifty two:

SEC. 1. *Resolved by this Assembly*, That Charles H. Pond, Robbins Battell, William A. Mead, Henry A. Dyer, David S. Fowler, James T. Pratt, Thomas Cowles, Ephraim H. Hyde, 2d, Charles Robinson, William Stone, Henry P. Havens, Edwin Newbury and William Holman, together with such persons as may hereafter become associated with them, be, and they are hereby incorporated by the name and style of the "Connecticut State Agricultural Society."

SEC. 2. The object of the Society being the improvement of agriculture, horticulture and the household arts, they shall be, and are hereby, for those purposes, made capable in law, to have, purchase, receive, possess and enjoy, to them and their successors, land, rents, tenements, hereditaments, goods, chattels and effects, of what kind and quality soever, necessary to give effect to the purposes of this Society, and the same to sell, grant, demise, alien and dispose of, to sue and be sued, plead and be impleaded, defend and be defended in all courts in this state or elsewhere.

SEC. 3. The said Society shall have power to appoint such officers as they may deem expedient, and also to make, ordain, establish and put in execution such by-laws and regulations as shall be deemed necessary and convenient for

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the well ordering and government of said society, and not contrary to this act and the laws of this state and of the United States, and to do and execute all and singular, the matters and things which to them may or shall appertain to do, subject to the rules and provisions herein above prescribed.

SEC. 4. This act may be altered, amended or repealed at the pleasure of the General Assembly.

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CONSTITUTION

OF THE

Connecticut State Agricultural Society,

AS

AMENDED AT THE ANNUAL MEETING, JAN. 3, 1855.

SEC. 1. This association shall be called the "Connecticut State Agricultural Society," and its object is improvement in agriculture, horticulture and the arts.

SEC. 2. The Society shall consist of those citizens of the state who shall pay one dollar into the treasury annually. There may also be honorary and corresponding members. The payment of fifteen dollars or more, shall constitute the donor a member for life and shall exempt him from the annual contribution.

SEC. 3. The officers of this Society shall be a President, two Vice-Presidents, a Corresponding Secretary, a Recording Secretary, a Treasurer, and one Director from each county, to be chosen at the annual meeting of the Society. The above, together with the Presidents of the county societies, who shall be, *ex-officio*, Vice-Presidents of this Society, and one director from each county to be chosen by the county society, shall constitute the Executive Committee of this Society, which committee shall elect three members of its own body to constitute the Finance Committee of the Society. The officers of the Society shall hold their office for the term of one year, or until others are appointed in their stead. The Executive Committee shall take charge of and distribute or preserve all seeds, plants, books, models, *etc.*, which may

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be transmitted to the Society; shall have charge of all publications; shall have power to fill any vacancies which may occur in the offices during the year; shall have charge of the interests of the Society in the counties in which they shall respectively reside, and shall have the general control of all matters pertaining to the interests of the Society.

SEC. 4. The Recording and Corresponding Secretaries shall perform the duties usual to such offices. The funds of the Society shall be in the custody of the Treasurer, who shall pay them out and invest them under the direction of the Finance Committee. He shall give bond to the satisfaction of the Finance Committee, for the faithful performance of the duties of his office; said bond shall be renewed as often as the same person is elected to office. It shall be the duty of the Treasurer to keep a particular account of the receipts and expenditures of the Society. He shall exhibit to the Executive Committee as often as required, the state of the treasury, and shall present to the Society at its annual meeting, a full statement of his accounts audited by the Finance Committee.

SEC. 5. There shall be an annual meeting of the Society at Hartford and New Haven, alternately, on the first Wednesday of January, at which all the officers of the Society shall be elected by ballot. Extra meetings may be convened by the Executive Committee, and at such meetings, twenty-five members shall constitute a quorum.

SEC. 6. The Society shall hold an annual Cattle Show and Fair at such time and place as shall be designated by the Executive Committee.

SEC. 7. This Constitution may be amended by a vote of two-thirds of the members attending any annual meeting.

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REPORT

OF THE

Sub-Committee of the Executive Committee.

To the Executive Committee of the Connecticut State Agricultural Society.

The Sub-Committee, to whom was confided the preparatory arrangements and general management of the Annual Fair and Exhibition, respectfully refer you to the report of the Corresponding Secretary as including all the necessary details and information upon that subject.

By order of the Committee.

SAMUEL H. HUNTINGTON, *Chairman.*

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REPORT

OF THE

CORRESPONDING SECRETARY.

ANOTHER year of successful effort of the Connecticut State Agricultural Society, demonstrating the value and importance of its influence, has gone by. To those who are interested in the improvement and progress of the industrial arts among us, and who have with great energy and perseverance labored for the success of this institution, as one of the most efficient instrumentalities for the accomplishment of those ends, it is a great gratification to note the growing usefulness of the State Society. That its exhibitions have been successful, both in the money receipts and in their intrinsic excellence, is gratifying and creditable; but the advantages of the Society to the State at large are by no means confined to the results of the exhibitions, useful and interesting as they are. The interest in improvement that is aroused in every section of the State, evincing itself in efforts to increase the value of all products, both in amount and quality, the discussions of the relative value of different classes of animals and crops, and the general spirit of inquiry into, and readiness to adopt valuable improvements in whatever pertains to the agricultural department of our industry, are evident and cheering marks of the utility of this Association.

A brief account of the operations of the Society for the year is respectfully submitted as the report of your Corresponding Secretary.

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The Third Annual Meeting of the Society was holden in Hartford, on Wednesday, January 3d, 1855. Hon. Samuel H. Huntington, President, in the Chair.

The Report of the Treasurer was read, which report was published in the Transactions of the last year. Various amendments to the Constitution were adopted leaving the instrument as published in our present volume. The Committee on the Agricultural School made an extended report, which, with accompanying resolutions, was published in Transactions of last year.

The following resolutions were passed, viz.:

Resolved, "That suitable salaries be paid to the Secretaries and Treasurer of the Society for their services, the amount to be fixed by the Executive Committee."

Resolved, "That the Executive Committee petition the Legislature to enact a law having in view the extirpation of the Wild Carrot."

Resolved, "That a Committee be appointed to apply to the Legislature to order an agricultural survey of the State, that shall cover the whole of its productive interests."

The following gentlemen were elected to fill the several offices for the ensuing year.

Hon. S. H. HUNTINGTON, of Hartford, *President.* Hon. CHARLES H. POND, of Milford, N. B. SMITH, of Woodbury, Hon. T. B. BUTLER, (Pres. Fairfield Co. Soc.,) of Norwalk, BENAJAH B. IVES, (Pres. New Haven Co. Soc.,) of Cheshire, Rev. W. CLIFT, (Pres. New London Co. Soc.,) of Stonington, Col. CALVIN D. WILLIAMS, (Pres. Windham Co. Soc.,) of Pomfret, Hon. ABRAHAM BEECHER, (Pres. Litchfield Co. Soc.,) of Bethlehem, CHARLES HUBBARD, (Pres. Middlesex Co. Soc.,) of Middletown, E. H. HYDE, 2d, (Pres. Tolland Co. Soc.,) of Stafford, *Vice-Presidents.*

Directors appointed by the State Society. F. H. NORTH, of New Britain, E. B. BISHOP, of New Haven, ELIAKIM HOUGH, of East Bridgeport, THEODORE S. GOLD, of West Cornwall, BRAINARD MOTAGUE, of Middletown, HENRY HAMMOND, of Killingly, RUFUS S. CHAMBERLAIN, of Coventry. HENRY A. DYER, of Brooklyn, *Corresponding Secretary.*

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JOHN A. PORTER, of New Haven, *Recording Secretary and Treasurer.*,

The Executive Committee met pursuant to notice given at the City Hall, Hartford, on Friday, January 12th, 1855.

The following resolutions were passed:

Resolved, That a premium of $5 be awarded to T. S. Hart, of West Cornwall, for a crop of white turnips.

That the application of N. Hart, for premium on crop of oats and corn be indefinitely postponed, from the fact that the original affidavit in regard to the crops was not offered.

That the application of F. Trowbridge, be refused, as there was not the required amount of land under cultivation.

That the report of P. T. Barnum, of a crop of corn, raised by him, and experiments, be printed with transactions, and that no premium be granted, as the reports were not entered in season to come within the rule.

That the same action be taken in the report of Hamilton Brothers, the same informality existing.

That S. H. Huntington, Charles B. Lines and Amos D. Lockwood, constitute the Finance Committee for the year 1855.

That the Publishing Committee be permitted to exercise their discretion, as to the publication of documents furnished by the County Societies.

That the towns of Hartford, New Haven, Bridgeport and Middletown, be invited to offer proposals, for the next Fair of this Society, and that the Fair be held at such one of the said towns, as shall offer the most favorable proposals in amount of subscriptions and other advantages; sealed proposals to be sent to the Corresponding Secretary, on or before the first day of March, 1855.

That this resolution be published throughout the State.

That a committee of three be appointed to act upon the proposals from the above named towns. Committee to consist of N. B. Smith, of Woodbury, Henry A. Dyer, of Brooklyn, and Erastus Williams, of Norwich.

Resolved, That the Corresponding Secretary be requested to devote his entire time to the interests of this Society, for

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the ensuing year,—to serve as clerk of the Executive Committee, to open a correspondence with other similar societies, both in this country and Europe, so far as by so doing he can promote the general interests of the cause, to visit the several parts of the State and endeavor to promote a more lively interest among the farmers and manufacturers, acquainting himself with the various interests in the different departments, and as far as possible, excite a general disposition to co-operate with us in the objects of our organization, to obtain new members by securing the required subscription to the funds, to devise means to obtain such legislative action as may seem desirable, and also to infuse into our system of education, such ideas as may tend to a more general diffusion of knowledge, upon the various matters that come within the scope of the objects of the Society, and in all other suitable ways, under the advice of the Executive Committee to devote his time to the best interests of the Association.

Resolved, That the Corresponding Secretary be allowed a salary of twelve hundred dollars for the year ensuing over and above his necessary traveling expenses.

Resolved, That the Treasurer be allowed a salary of one hundred dollars for the ensuing year.

The President understood that the salaries were to commence from the Annual Meeting, January 3, 1855. The committee acquiesced.

Resolved, That the Recording Secretary and Treasurer, be paid one hundred dollars for his services for the past year.

The committee proceeded to act upon a list of premiums offered by the Corresponding Secretary, and continued to do so until the adjournment at 10 o'clock, P. M.

Adjourned to meet at 8 o'clock, January 13, 1855.

SATURDAY, JANUARY 13, 1855.

The committee met pursuant to adjournment, continued the discussion of the premium list, which with various amendments and alterations was adopted. Changes at the

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discretion of the Corresponding Secretary to be made in the horticultural department and fine arts. The committee proceeded to the election of judges, and continued thus occupied throughout the day, leaving a portion to be supplied by the sub-committee; previous to the adjournment the following resolutions were adopted, viz.:

Resolved, That the traveling expenses of the Committee on Farms, be paid by the Society.

Resolved, That S. H. Huntington, H. A. Dyer, and T. S. Gold, be a Sub-committee of the Executive Committee and they are hereby vested with full powers of the Executive Committee.

The Committee adjourned *sine die*.

The Executive Committee of the Connecticut State Agricultural Society met at the common council room in New Haven, January 1st, 1856. Hon. Charles H. Pond in the chair.

The Sub-Committee offered a report referring to the report of the Corresponding Secretary for a detail of the operations for the year. Report accepted. Report of Corresponding Secretary read, and accepted. Report of Treasurer read and accepted. Reports on root and grain crops were offered and read by the Corresponding Secretary, on which action was taken as follows:

To Nathan Hart, Jr., of West Cornwall, no premium was awarded on his entry of mangold wurzel, as the crop was not large enough to meet the rule requiring 800 bushels to the acre. To John S. Whittlesey, of New Britain, no premium was awarded on his entry of corn and potatoes, as they were not entered in October; his report ordered to be printed with Transactions.

To Nathan Hart, Jr., of West Cornwall, 2d premium, for crop of Carrots, ... $5

To T. S. Gold, of West Cornwall, 1st premium, for crop of Ruta Bagas, ... 5

To T. S. Gold, of West Cornwall, 1st premium, for crop of Spring Wheat, ... 5

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To B. W. Coe, of Middletown, 2d premium, for crop of Buckwheat, ... $3

To J. P. Brewster, of West Cornwall, 1st premium, for crop of Oats, ... 8

The above entry of oats was the only one made; the Secretary is directed to record the opinion of the committee, that some error was made in the measurement of the crop.

Resolved, That the Corresponding Secretary be authorized to publish the same number of volumes of the Transactions of the Society for 1855, as were published for 1854, under the direction of the sub-committee to be appointed by the Executive Committee.

Committee adjourned *sine die*.

Advertisements for proposals from various towns were published in the local papers. On the 7th of March, the Committee for Location of Fair met at Hartford. The proposal from Hartford, guaranteeing three thousand dollars for the use of the Society, was accepted, and arrangements were immediately entered upon for the coming exhibition.

A piece of land on the meadow, belonging to Col. Colt, was proffered for the use of the Society, but owing to position of the dike and the difficulty of fencing the land and making the arrangements, it was decided by the Executive Committee, advisable to seek some other location. After much delay and difficulty in selecting a site, the land owned by Mr. Norman Clark, on the Albany turnpike, was leased, a survey made, and the advertisements for proposals for building, issued. Various proposals were obtained, all of them exorbitantly high. On Saturday, 26th of May, a contract was made with Mr. George Gay, for the erections. The sum agreed upon was $3,100, with additions and deductions, as per schedule, in the contract. This contract was carried out on Mr. Gay's part, very much to the satisfaction of the Executive Committee. The buildings were very substantial and creditable, and much credit is due Mr. Gay for the disposition manifested to carry out the objects of the Society, in his department, in the best possible manner. Much diffi-

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culty was experienced in getting a proper track upon the ground selected. It was eventually found necessary to take a portion of ground belonging to Mr. Amasa Holcomb. This person, taking advantage of the exigency of the Society, forced the Committee to pay one hundred dollars for the use of some four acres of ground.

With some very heavy and expensive grading, a very excellent track was gained. The cost of this was much beyond that of last year, but it is believed the matter was as economically managed as the circumstances would allow. Very efficient service was rendered here, as in almost every other portion of the preparations, by Mr. W. E. Gates, of Hartford. This gentleman deserves much credit for the untiring assiduity manifested in his endeavors to make the track every way satisfactory, and to his constant attention and supervision of the work, its excellence is in a great measure owing. The erections and every arrangement for the comfort of stock, and the convenience of exhibitors of every class, were complete before the opening of the grounds for the admission of goods, on Monday, previous to the exhibition.

That the exhibition was creditable to the contributors and to the State, the universal acclaim from the press throughout the country certifies. That it was remunerative, the account of the Treasurer will show. A much larger amount has been awarded in premiums than was awarded last year. The expenses of the exhibition were much increased, owing to the larger amount of land inclosed, and the more numerous and extended structures. The printing of the transactions of the last year, and the salaries of the officers and expenses for the year have been paid, and yet the amount of the fund of the Society is not decreased, if it does not show some small gain.

The unfortunately severe rain of Friday, the last day of the Exhibition, diminished very largely, the receipts of the Society. The attractions were more than usual for the last day of an agricultural exhibition. A very numerous and valuable class of horses was to have been on exhibition, and much interest was felt to see that display. His Honor,

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Henry C. Deming, Mayor of Hartford, was to deliver the annual address; this was rendered impossible by the storm, and was postponed until the annual meeting.

The general display of the products of the State was very creditable. A very large and admirable show of neat stock, affords evidence of the increase of care in breeding, and attention to the character of this class of farm stock, that is very encouraging. The show of Working Oxen was beyond praise. Probably no other State in the Union can make so splendid a display of this valuable class of stock as Connecticut. The various classes of blood stock were duly and desirably represented. The noble Durham, the beautiful Devon, with the Alderney and the Ayrshires, were all in force, and evincing good taste and good management on the parts of their several owners. Many fine grade, and so called native cows, were on exhibition, maintaining no mean place in the array of stock. The failure, on the part of the Society, to offer any premium on native or grade male animals, has excited some controversy and animadversion. The statement has been made, that there are many herds of pure native stock, dating back many years, without taint from any foreign blood. If such cattle are in the State, it is very desirable they should be brought out, and their characteristics and qualities ascertained. The exhibition of sheep was very much beyond the last, but there is yet much room for improvement. The show of poultry was quite small.

The Horticultural Department was to many, the most interesting part of the Exhibition. Its quiet pursuits are as much enjoyed by some, as more exciting scenes by others. The large numbers who thronged the tents where these products were exhibited, showed that a just appreciation of their value is felt in the community. The unexampled quantity of fine apples and other articles presented, tried severely the Superintendent of this department, D. S. Dewey, Esq., who, with other gentlemen of the Horticultural Society of Hartford, were unremitting in their exertions to accommodate both exhibitors and visitors.

The show of dairy produce and vegetables, was very cred-

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itable and satisfactory as to quality; but many sections of the State were not represented, and the show was not as large as the importance of the interest demands. A great failure in the value of this portion of the show, arises from the negligence of exhibitors to afford such accurate and satisfactory detail of the manner of manufacture, as should afford information valuable for use. Mr. C. E. Fox had charge of this department, and rendered good service.

A very interesting feature in the Exhibition was much noted, and added largely to the gratification of visitors,—the department of the Fine Arts. To the exertions of Mr. Hinsdale, the Society are indebted for the many valuable pictures belonging to the citizens of Hartford, that were loaned for the occasion, as also for his indefatigable exertions in arranging this portion of the Exhibition and securing it from damage by the storm. This may be made in after years, a veryattractve portion of the annual show, and afford much benefit in adding a pleasant and refining influence to the occasion.

The exhibition of Musical Instruments in the same building, was creditable to the manufacturers, and of interest to the spectators. Another year should add largely to this department.

A gratifying increase in the evidences of the manufacturing and mechanical skill of the State, as displayed in the Exhibition, affords encouragement that in future festivals of the Society, a full development of the industry of Connecticut will be made. Under the consideration that the resources of the State could only be manifested by the gathering of the handiwork of the mechanics and manufacturers, effort was made to interest them in the objects of the Society, by a personal application on the part of the Secretary, to as many manufacturers in the principal manufacturing towns, as time and the business of the Society would allow.

The success of the application was manifest in the magnificent display that won the admiration of the thousands who thronged the hall through the days of the Fair. Creditable to the individuals and corporations who furnished the display, and gratifying to our State pride as it was, the

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consideration that the half was not there told, but stimulates to a more thorough effort in the coming years. It is undoubtedly true, that "no single country in the world can boast so varied a manufacturing interest as the State of Connecticut." And it should be the pride of her manufacturers to so thoroughly exhibit their products, that the annual exhibition of their skill shall challenge the attention of the whole country, and draw intelligent and appreciating observers from the remotest sections of our land. This Society is designed to cover all the industrial interests of the State. The mechanic, the manufacturer, the artisan, of whatever class or degree, has the same liberty to interest himself in its operations and general business, as the farmer or the gardener. Its title, The Connecticut State *Agricultural* Society, does not, nor is it intended to make it in any degree, *exclusively* devoted to the agricultural interests of the State. This title is adopted to bring it into association with kindred organizations in other States, and because of the difficulty of finding any other designation, brief and pertinent.

The agricultural industry of the State, is without doubt, more in need of the advantages to be obtained by a Society like our own, than most of the other vocations. The husbandman is behind the mechanic in the science of his calling. The industry of the State is so akin, so mixed in its dependencies, that improvement and benefit obtaining in one craft, is of advantage to all. "Make two blades of grass grow where one stands now," and while you benefit the farmer directly, the incidental gain is felt in the homes of the artisans of Waterbury and Meriden, almost as soon as with the farmers of Pomfret and Cornwall.

The manufacturers of the State should feel this to be true, and by their presence and active earnestness in the business meetings of the Society, bring their strong influence to bear in putting its operations on the best possible basis, and by a thorough exhibition of their wares, add attractiveness and interest to its exhibitions. That direct advantage would accrue to the manufacturing interests of the State, from the call to the country to come to Connecticut and see each

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year what she is doing, is undoubtedly true. A long step might be made toward bringing purchaser and maker into direct communication, and the annual Fair of the Connecticut State Society, become the cynosure of all interested eyes throughout the country. It rests with the producers of the State to make it so. Exhibitors and the Society are much beholden to the efficient superintendents of this department, Messrs. Joseph Pratt, S. A. White and E. T. Goodrich, for the assiduous care and labor afforded by them, for the proper display and preservation of the large amount of goods that came under their charge. The fact that no article was lost or injured, is in a great measure attributable to their persevering attention to their voluntary duties.

One of the most difficult matters to manage, and the source of most disappointment and dissatisfaction, is the selection and obtaining of judges. A copy of the premium list was sent to every person whose name appeared in the list of judges, with a request that he would signify his acceptance of the appointment. The attention of each was drawn to his position, by his being addressed as Committee on Devons, or whatever his class might be. From some, notice of acceptance was received, and from some notice that they could not serve, but comparatively few took any notice of the request. It is very desirable that some mode of securing competent judges in proper season, should be devised. The attention of the Society is called to this matter, with the hope that some plan may be suggested that shall lessen the evil. To the gentlemen who were present, of the original appointees, as well as those who were appointed in the exigency of the moment, much credit is due for the untiring perseverance and energy manifested in the discharge of their duties, under circumstances of much disadvantage. The first day of the Exhibition is the one that should be employed by committees, for a careful examination of articles claiming their attention, particularly manufactured articles, fruit, and all such matters as are displayed under cover. The crowd in after days, entirely prevents all careful discriminating discharge of duty. The appointment of committees should

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demand the serious attention of the Society. It is desirable that every section of the State should be represented in the Executive Committee, when these appointments are made, that judicious men from the several localities, may be appointed. A full board should meet for that business, and every member of the committee should feel himself under obligation to be present then, if he does not appear at any other time. Deliberate and careful attention should be given to this matter, as its importance emphatically demands; and the impression should go abroad, that the compliment of an appointment on the board of judges is of sufficient consequence to demand a courteous and prompt attention on the part of the recipient, and it is much to be desired that all persons so appointed, should feel sufficient interest in the success of the Society, to give their attention to the duties of the office, even at the cost of some little personal inconvenience.

Another important subject in the decision of awards, is commended to the consideration of the Society. The estimate of the value of an animal, in any particular class of stock, should not be left to the unguided, arbitrary, and perhaps capricious decision of a committee, but some standard of qualifications should be adopted by the Society, as has been done by kindred associations in other sections of the country. A standard of the value of the different points of an animal, in the various classes, should be adopted; the value of each point of a first-class animal being given, making an aggregate of one thousand for the whole. Each member of the committee should be required to mark his estimate of each point, as compared with the number fixed in the standard, and the comparison of estimates at the close of the examination, would give clearly the opinion of the different members. The system adopted by the Executive Committee, of affixing the name of the proprietor to the animal or article on exhibition, affords the advantage, if advantage there is, in bringing the ownership of all articles to the knowledge of the committee, depriving the busy, persevering, shrewd owner, of undue advantage, so far as this knowledge goes, putting all parties on the same level. The influence of pro-

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prietors should be guarded against by the judges, and strong measures should be taken by the Executive, Committee, to prevent such influence from being exerted. A great influence on the success of the Society is exercised by the awarding judges, and it is of the first importance that their duties should be discharged without bias or influence, and with the best judgment of the best men that can be procured. Such measures as will secure this end, should be carefully sought and put in operation.

In closing the report of the Exhibition, it may not be amiss to congratulate the Society that it has been able to carry out its exhibitions in a manner in no degree below the character of such displays elsewhere, without the aid of any attractions or inducements for visitors, that are not legitimately in the sphere of its operations, as an industrial Society. It has been proved that the productive interests of the State can maintain an exhibition, sufficient from its intrinsic excellence, to arouse the attention and command the presence of the people, without the use of any measures of questionable propriety. The dignity and eventual utility of the Society, is to be maintained only by a steady perseverance in its legitimate operations and exhibitions. Anything that shall tend to lower the standard of our annual display, will inevitably prove detrimental to the interests of the Association. Its exhibitions should be strictly confined to the products of the skill of the husbandman and craftsman, that minister to the moral, mental, and physical well-being of the community. So soon as the people of the State cease to take interest in the operations of the Association so managed, it has ceased to be useful, and should be abandoned.

The liberal contribution made by the citizens of Hartford, and the spirit of accommodation manifested by His Honor the Mayor, and the civic authorities, demand the acknowledgements of the Society. A large and efficient police force, under the superintendence of Captain Russell, was furnished by the city; and through their careful and constant vigilance, everything moved in the most orderly and satisfactory manner. There were but few instances of theft in the large

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crowd, and no disorderly or riotous conduct upon or about the grounds.

That no accident occurred to any of the thousands who crowded about the track during the exhibition of Wednesday and Thursday, is a matter of great gratification; and in large measure, is due to the order and system maintained by the Marshals. To General James T. Pratt and the gentlemen who so ably and efficiently assisted him in the discharge of this duty, the thanks of the managers of the Exhibition are eminently due. These gentlemen were prompt and untiring in the duties of their office, and rendered, in almost every department of the Show, assistance that could have been ill dispensed with.

A Committee of Reception was organized among the citizens, His Honor the Mayor, being at its head, and all strangers that could not be otherwise accommodated, received attention and obtained quarters among the citizens.

To the liberal policy pursued by the Railroad Corporations through the State, much of the success of the Exhibition may be attributed. All articles and stock for exhibition, have been transported free of charge, to and from Hartford. The New Haven, Hartford and Springfield Railroad transported passengers at half rates, on each day of the Fair. The Providence, Hartford and Fishkill Railroad, ran one excursion train from Providence, and a disposition to co-operate in the objects of the Society has been manifested by all roads in the State. A free pass has been afforded the Secretary, over most of the roads during the year. This policy, while it gives great encouragement and assistance to the Society, is undoubtedly remunerative to the roads, besides enlisting the good feeling of all the producers in the State toward their management.

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TRANSACTIONS.

The Executive Committee having decided to publish four thousand copies of the Transactions, after ascertaining the rates at which other parties would do the work, on the ninth of February arrangements were made with Messrs. Case, Tiffany & Co., of Hartford, for the publication. On the 18th of April, the edition was ready for distribution. Three thousand were distributed among the County Societies; five hundred were bound for distribution in exchange; five hundred are left in sheets, to be bound as they may be wanted for premiums, as the number of volumes increase. There are yet on hand some three hundred of the bound volumes. It is desirable that the County Societies should furnish as full details of the position and progress of the industrial interests in their several sections as can be procured; if proper reports from these bodies can be obtained, in a few years from now these books will be of great interest and value. To the several gentlemen who furnished useful and desirable papers for publication, the thanks of the Society are due.

It would be very desirable to obtain authenticated experiments in the use of concentrated fertilizers from various sections of the State, for publication. Measures for the gaining of useful practical information, obtained by careful experiment, would tend vastly to promote the efficiency of the Society and the value of its publications. These annual reports, if their importance and general utility could be so appreciated as to induce those who are thoroughly qualified, (and we have many such among us,) to furnish the result of their year's operations, in exemplification of the theories they entertain, giving the detail of trials of different tools and machines that claim to be improvements upon old appliances, the availability of hitherto untried or comparatively new crops, and such information as the observing and intelligent farmer is constantly gaining in the pursuance of his calling, would be of incalculable advantage to the husbandry of the State, and afford one of the strongest inducements for the support of the Society.

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In closing his report, the Secretary takes leave to make his personal acknowledgments to gentlemen who have been associated with him in the duties of the Society, as well as to all those who have afforded him valuable assistance, without which he would have found it utterly impossible to carry forward the arduous and multifarious duties of his office. Among the numbers who have thus extended efficient assistance, it would be an endless task to make mention of individuals. It only can be said, that on all hands ready and active exertion has been given wherever such exertion has been required, and courteous and kind consideration and support have always fallen to his lot. To all with whom he has thus been brought into connection, he would tender his sincere thanks.

HENRY A. DYER,

Corresponding Secretary.

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TREASURER'S REPORT.

DR. CONN. STATE AGRICULTURAL SOCIETY *in account with* JOHN A. PORTER, *Treasurer.* CR.

1855.	To Cash paid on Premium List of 1854,	$11.00
	" " " for Printing Transactions of 1854, &c.,	1602.89
	" " " " Advertising,	312.59
	" " " " Buildings, Fences, &c., for the Fair,	3827.75
	" " " " Use of Tents,	325.00
	" " " " Rent of Fair Ground,	200.00
	" " " " Grading Track,	393.02
	" " " " Surveying,	22.00
	" " " " other Labor at the Fair,	319.82
	" " " " Music,	128.00
	" " " " Services of Clerks,	227.75
	" " " " Hay and Straw,	659.47
	" " " " Horse Keeping and Carriage Hire,	56.50
	" " " " Dinner Tickets furnished Committees,	223.12
	" " " " Board of Clerks,	22.00
	" " " " Dies for Medals,	350.00
	" " " " Sundries, at time of Fair, as per approved Bills,	293.43
	" " " " Advances for Sundries made by the Superintendents during the Fair,	208.41
	" " " " Premiums,	4405.50
	" " " " Salaries, (including allowance of $100 to Treasurer for services during 1854,)	1400.00
	" " " " Traveling Expenses, &c., of Corresponding Secretary and others,	502.69
	" " Loaned, by order of Finance Committee,	3000.00
	" " Balance in the Treasury,	519.47
		$19010.41

1855.	By Cash from old account,	$338.43
	" " Subscription of Citizens of Hartford,	3000.00
	" " received on Loans, including Interest,	5178.41
	" " Receipts at Fair and Fees for Membership,	10076.85
	" " and Dinner Tickets, received of Goodman & Mason, according to Contract for furnishing Meals at Fair,	400.00
	" " received for Premium Lists,	16.72
		$19010.41

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There is still due the Society from the State Treasury, the sum of $2,500, being the amount of the grant made at the last session of the Legislature. This sum added to the amount in the treasury and that loaned by order of the Finance Committee, gives $6,019.97 as the sum total of the funds of the Society at the present date. This amount will probably be reduced about $800 by outstanding bills, the principal of which are for medals and engraving of diploma plate, not yet delivered.

It appears from this statement that the receipts of the Society for the present year, exclusive of interest on loans, will have been nearly sufficient to cover all its expenses, including the publication of the Transactions for 1854.

It is also to be borne in mind that the Society has during the year, acquired property of permanent value to the amount of $600 or more, in the form of dies for medals, an engraved plate for diplomas, and some other articles. These are expenses which will not have to be incurred again, and will tend to reduce the future outlay of the Society.

JOHN A. PORTER, *Treasurer.*

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THE

ANNUAL ADDRESS,

DELIVERED AT

NEW HAVEN, JAN. 2D, 1856.

By Hon. Henry Champion Deming.

"WHATEVER ELSE MAY TEND TO ENRICH AND BEAUTIFY SOCIETY, THAT WHICH FEEDS AND CLOTHES COMFORTABLY THE GREAT MASS OF MANKIND SHOULD ALWAYS BE REGARDED AS THE FOUNDATION OF NATIONAL PROSPERITY."—WEBSTER.

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HARTFORD, January 12th, 1856.

Hon. HENRY C. DEMING:

SIR:—At the meeting of the Connecticut State Agricultural Society, January 2d, 1856, it was

Resolved, "That the thanks of the Society be extended to the Hon. Henry C. Deming, for his able and eloquent address, and that he be requested to furnish a copy of the same for publication with the Transactions of the Society."

By order of the Executive Committee, I have the honor to transmit the above resolution, and to request your manuscript for publication.

Very respectfully,

Yours truly,

HENRY A. DYER, *Cor. Sec'y.*

HARTFORD, January 15, 1856.

HENRY A. DYER, Esq.:

Dear Sir:—I have received your letter, containing the resolution of the Agricultural Society, and asking a copy of my address, for publication. A manuscript had been written, containing a small portion of what I had intended to say on the State Fair Grounds, if that intention had not been defeated by the rain. When I was unexpectedly called upon to go to New Haven, and deliver in a January ice-storm, an address which had been prepared to be spoken "under an October sun," and in the actual presence of your Exhibition, I was obliged to abandon much of my previous preparation, and the sheets which I now send you, are in part a report of the New Haven speech, written out since the second of January, and in part such fragments of the manuscript as I found available for that occasion.

I am, very respectfully,

HENRY C. DEMING.

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ADDRESS.

MR. PRESIDENT:

The Second Annual Fair of your Society, as proof and profert, of the agricultural and industrial wealth and resources of the State, might well command our pride and gratitude. While the display of Durhams and Devons, was highly creditable to the breeders of fancy stock, there was an array of native breeds and working oxen, representing the most real and substantial uses of this animal, that was, by universal consent, not only entirely unsurpassed in all previous exhibitions of a similar character, but so large and so rich, as to safely challenge and defy the future.

As the commerce of a State is measured by the tonnage of its ships, so the number and condition of its Working Oxen, may be regarded as no unfair exponent, of its agricultural strength and capacities.

We had horses, too, of every variety, natives and thoroughbreds, for show and for use; coursers and roadsters, which in beauty, strength, and speed, compared favorably with the collections drawn together, by the larger premiums, and broader competition of National Fairs, devoted to this animal exclusively. While we had steeds that would enchant an Arab, it was my good fortune to notice one pig, that might have converted a Turk; but he stood solitary and alone in his swinish loveliness; the only beauty of his family that graced the occasion.

If a more delicious and fragrant offering, can be laid on the altars of Bacchus and Pomona, than was to be found in

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your horticultural tent, I trust that I, and all lovers of good fruit may be there to see it.

The Mechanical and Manufacturing Department of the Fair, though commendable, so far as it went, and presenting many beautiful fabrics, and much exquisite workmanship, yet as a whole, was an inadequate exhibit of our wealth in these departments, and immeasurably beneath our capacity. For if there is one State that might throw down the gauntlet to the world, in such an exhibition, that State is Connecticut. If there is one State where mechanics and manufactures are not confined to the water-courses, and the sides of the railroads, but like the atmosphere, pervade and permeate every part, that State is Connecticut. If there is one State, distinguished no less by those great establishments that throw off their products by the hundred thousand dozen, than by those little rills and streams of industry, that sparkle and ripple on every homestead, that State is our own. If but a tithe of these could have been diverted from their channels, and turned into your enclosure, there would have been such a numberless and nameless variety of contrivances and notions, such a museum of every conceivable and inconceivable patent, and labor-saving machine, such a gathering together of the multitudinous progeny of Connecticut cuteness, and cunning, and skill, as the sun in his course, never looked down upon.

You can hardly expect from me, sir, on this occasion, or on any occasion, any instruction in practical husbandry, or in agricultural art and science. Neither my studies nor pursuits, have adapted me to any such undertaking. The pleasures of the farmer's life! have they not been said and sung from the days of Theocritus and Virgil, to the last orator of the day? I should despair attempting to decorate a theme, already so amply illustrated, or to increase the interest we all feel, and the respect we all entertain, for the healthy, honest, and honorable vocation of those, who, masters of their own acres, as well as of their own wants and passions, are the truest exemplars of republican frugality, independence, and manliness. Although, sir, under the au-

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spices of your Society, and although agricultural productions and implements constitute a large part, still your exhibitions are intended to display all the industrial arts and resources of the State, and it is this aspect of them, that naturally suggests the general theme, to which I have ventured, with many misgivings, to call your attention, for a few moments, to wit:

THE BENEFICENT AGENCIES OF THE USEFUL ARTS.

I am aware that Agriculture is not included in those classifications of the USEFUL ARTS, that are merely scientific; but as I know no good reason for the omission, and am moreover aiming at no severe distinction, but seeking a convenient term, to embrace most of the forms of industry, represented in your Exhibition, I shall use the term, as if Agriculture was confessedly within its purview.

Among the instrumentalities which affect the condition of man, the precedence is quite uniformly, and rightfully given to those, which address themselves to his spiritual nature, to Religion, Education, Law, and the Fine Arts. But if these agencies were the first, in order of time, as they are in rank, to which he is subjected, and after they had done for him their utmost, he should be bereft of others, equally indispensable to his welfare, he would find himself the most miserable and pitiable specimen, of the mamalian family.*

* Bishop Potter, in his valuable little treatise "on the Principles of Science applied to the Domestic and Mechanical Arts," says, in substance, "that the difficulty with which man maintains even life, when deprived of some of his customary tools and weapons, and left without the assistance of his fellows, is strikingly illustrated by the adventures of Ross Cox, who, while traveling with a company of traders, in the North-West Territory, was one day, when he had fallen asleep, accidentally left by his companions, and not found again till several days after. It happened, that owing to the extreme heat of the weather, he had divested himself of his weapons, and of nearly all his clothing, which was carried off by the party. He was left, therefore, like other animals, to his natural resources; and the picture which he gives, of the extremities to which he was quickly reduced, by hunger, by the torturing stings of insects, the terror of wild beasts, and the impossibility of tracing his companions, is equally affecting and instructive. It is quite evident, that, if he had not been most opportunely found, he must soon have perished." In a note to the above passage, he adds, "It may be possibly objected, that this example of man's natural imbecility, is taken from an individual who

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He might be good, wise, upright, "noble in reason, infinite in faculties, in form and moving express and admirable, in action like an angel, in apprehension like a god," but he would be a naked, thin-skinned, hungry, thirsty, short-winded, shame-faced biped, without hide, fur or feathers. In such a condition, the USEFUL ARTS receive the paragon of animals, from the hands of his spiritual guardians. They feed, clothe, shelter, cleanse, adorn him. In comparison with other creatures, they find him weak, and endow him with a strength superior to all; defenseless, and equip him with arms that vanquish all; slow, and give him wings that outstrip the eagle; in short, they encircle his perishable, with comforts and luxuries, worthy of his imperishable nature.

Though the USEFUL ARTS find MAN thus destitute personally, he is no beggar, but the undoubted and rightful heir of a most splendid inheritance,—useless and unavailable, it is true, in its normal condition, but under proper culture and management, an inexhaustible mine of plenty and wealth. It consists of the rough matter which composes the solid earth; of the soil and water which cover it; of the birds of the air, the beasts of the field, and the fishes of the sea. Of this inheritance, the USEFUL ARTS become the most serviceable and trustworthy of stewards. They convert the solid earth into innumerable objects of convenience and value. They open communications, secure the harvests, collect the flocks, cultivate the soil, improve the fisheries; in short, they render the world, over which dominion was given to man, a comfortable, convenient, and elegant abode.

God creates matter, but the USEFUL ARTS create its utility, or, in the language of Political Economy, they are producers,

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has once lived in civilized society, and had thus been rendered effeminate; and that we ought rather, to adduce the case of those who have lived, like animals, only in a state of nature. One or two such individuals have been discovered, within the last century, living alone, in forests; as for example, Peter, the Wild Boy, in Germany, and the savage of Arvignon, in France. They were found, however, in the lowest physical and intellectual condition, subsisting on the bark of trees, unable to distinguish, by touch, between a carved and painted surface, and having hardly a trace of humanity. Such cases afford the most conclusive proof, that, as *men*, we owe most of our power and dignity to culture.

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and production is the sole, the only fountain head, of that enviable stream, the Wealth of Nations. Commerce, to be sure, is an important agent, in diverting the current, and in changing the relative position of wealth, but it adds not one drop to the golden stream, for which countless myriads thirst. Production is its only origin, and every flight of human credulity, every device of human ingenuity, to discover some other source of this Pactolus, has signally failed. The Golden Fleece, the dreams of the Alchemist, the visions of El Dorado, South-Sea Bubbles, tulip-manias, multicaulis-manias, California fevers, stock-jobbing, and up-town lots, are the weighty authorities and confirmation strong, which successive centuries have brought to the truth, that production is the only real source, of the aggregate wealth of Nations. Many falser images have been used than that which declares, that "Gold, in its last analysis, is the sweat of the poor and the blood of the brave."

It is a liberal estimate, which assigns one-fifth of the human family, in civilized countries, to the non-producing class; the USEFUL ARTS provide for the remaining four-fifths, and thus convert into props, and pillars, and bulwarks, what would otherwise be, intolerable drags and burthens and nuisances, in a State. They give employment, not servile and degrading, but honorable and remunerative employment, to a vast majority of the human family. This consideration alone, if it was all that could be urged, would place them foremost, among the agencies which contribute to the welfare of the race.

But still higher commendation belongs to them. They are the grand instruments, by which LABOR acts upon the world, and thus the paramount obligations justly due to LABOR, become justly due to the USEFUL ARTS. "In the sweat of thy brow thou shalt eat bread," is a curse which carries a blessing with it. Like Mercy, labor is twice blessed,—

"It blesseth him that gives and him that takes."

That toil to which we are condemned, as the tenure of existence here below, is the training, which invests both

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body and soul, with the insignia of true and genuine manhood. Effort is the only school for the muscles of the frame, and the muscles of the intellect. Where but in that rocky mine which LABOR delves, can be found those priceless gems, will, efficiency, courage, pluck, perseverence, patience, self-confidence, self-reliance, contempt for difficulties? These are the sheet anchors of the heroic character,—this is the stuff of which martyrs and heroes are made,—these fashion those souls, that are adamant in a just cause. Goethe gracefully compares the effect, of a strong necessity, imposed upon a mind, habitually untasked, to an oak planted in a China vase; when the branches expand and the roots strike out, the vessel flies to pieces.

Invaluable as is this disciplinary function of LABOR, it is but a pebble picked up on the shore—a drop in the boundless ocean of her beneficence. LABOR is a universal solvent, a philosopher's stone, with transmuting powers, magical and gorgeous, beyond the dying alchemist's dream. Entering into all the dead, sluggish, inert matter of the earth, she imparts to all the life-like properties of Utility and Value. There is nothing in the caverns of this round globe, in the depths of the sea, I had almost said the realm of Air, which LABOR transforms not into a necessity or a luxury. No sweep of ocean, no forbidding desert, no fastnesses of forest or of wilderness, can hide a product, useful to man, from the omnipresent eye of this great benefactor. She catches from the passing breeze, the waste white down of the cotton shrub, and lo! bleaching cloth lies in the place of idle litter, and the nakedness of man is covered.* She stumbles upon a worthless mass of vitrified sand, and behold! window-panes for every man's dwelling, cheap drinking cups for every man's table, the mirror, the Portland vase, the prism, the telescope, the microscope, the Crystal Palace. It stretches its hand over the waste places of the earth, and "instead of the thorn, comes up the fig-tree, and instead of the brier, the myrtle-tree." Iron, in its fingers, is as flexible as clay in the potter's, while language struggles in vain to depict, the infi-

*Carlyle.

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nite variety of texture, and utility, which it imparts, to the fleece of an animal, the gum of a tree, and the entrails of a worm. There are no such words as "useless," "worthless," in her vocabulary. Refuse and rubbish are no longer such, when touched by her wand. The dead animal, which was formerly banished to the wilderness as a nuisance, she now transmografies into something useful or ornamental; she even brings life out of death, vitalizing exhausted soils, by the moldering relics of mortality, which she digs from the Blenheims, the Austerlitzes and Waterloos of the world.

The blessings which mankind owes to PRODUCTIVE LABOR, can be vividly realized, by imagining the state of things, if it should be annihilated. Suppose, then, by some all-pervading distemper, or by some fiat of divine displeasure, the arm of universal LABOR was paralyzed. It would break the main-spring which sets the whole machinery of existence in motion. It would cut off the supply of life at the fountain. The wheel of business, losing its only momentum, would soon cease to revolve. Grass would grow in our most crowded thoroughfares. Those great marts, where traffic now chaffers in its thousand tongues, where cheerful art rings its innumerable sounds, and busy and hurrying myriads proclaim the bright and joyful reign of LABOR, would become noiseless, and blighted, and petrified, like some vast city of the dead. Not the clink of a hammer, nor the rattle of a shuttle, nor the whiff of a steam-engine, nor the roll of a wheel, would break the sepulchral stillness of an idle world. The axe, the file, and the saw, would lie silent, where they had dropped from the hands of the yawning artizan; the plough would rust where it had stopped in the furrow. All the products of the now idle weaver, would soon drop piecemeal from the shelves of the merchant, and tattered rags, hanging on a universe of sluggards, would pre-announce man's speedy return, to his original Nakedness. Crops would decay in the field. The ungathered fruits would rot upon the ground; the granary would soon surrender its last kernel. Starvation would follow Nakedness. Ships, sailorless, would toss upon the seas, the forests would be burnt for

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fuel, the mine would no longer send to our wharves the grateful coal, and Frost—a third fury—would follow in the footsteps, of Nakedness and Famine. The palaces of the great, the habitation of every family, would be burnt for fire, whole cities would be consumed, and naked and starving man would soon be houseless, shelterless, and gathering round the dying embers of their dwelling, would rake together the feeble sparks, with skeleton fingers. Religion, Education, Law, the Church, the Altar, and the Capitol, would all be whelmed and wrecked in a world-wide maelstrom, of wretchedness and despair.

If it is true that the USEFUL ARTS are thus of indispensable necessity to mankind, it would be reasonable to suppose, that they had always been, the special objects of supervision and care, on the part of the science and learning of the world. So unwarranted, however, is this supposition, that for nearly two thousand years, from the days of Aristotle, at least, to the days of Bacon, there was not only no cordial alliance, between the man of thought and the man of work, between PHILOSOPHY and the USEFUL ARTS, but mutual alienation and distrust. PHILOSOPHY, disdaining to minister to the vulgar wants, or vulgar resources of the race, was absorbed in abstractions, barren and useless to man, as those God-forsaken wastes, which cover the accursed cities of the plain. Her super-refined and exquisite spirit, shrunk instinctively, from the vulgar useful, and the dirty practical. She was ashamed of her accidental improvements, of her involuntary inventions. She disowned and repudiated any chance offspring, which contributed, at all, to the relief of man's estate. She rebuked and denounced one disciple, for having ventured to claim for her, the discovery of the principle of the arch, and the introduction of the use of metals, and ostracized another, for prostituting Geometry to the invention of Machinery, and the most practical of her school, the inventor of the pulley and the endless screw, regarded these contrivances, as scientific trifles, beneath the dignity, and unworthy the severer studies of PHILOSOPHY. "What," said she, in sovereign scorn, "has PHILOSOPHY to do with

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houses, roofs, iron, copper, ploughs, looms and machinery. PHILOSOPHY raises man above these sublunary wants and expedients, these groanings, sufferings, and complainings, of his mere animal nature. While forming the soul, ethereal-izing the mind, and lifting both above the visible, the tangible, into the sublimated region of pure thought, and immutable essences, how can she bend her lofty pinion, to brood over mere bodily wailings and wants?" The true philosopher ought not to know, whether he is sheltered, fed, and clothed, cold, hungry, sick, and destitute; Oh! no, he should feel nothing, but the rapture of contemplation, see nothing, but the beauty of virtue, hear nothing, but the music of the spheres! That "there is no reasoning with hunger" or "arguing with pain," are modern fallacies. According to ancient PHILOSOPHY the cravings of a famished stomach, and the wailings of a gouty toe, were both to be cured, by simply convincing their victims, "that pain was no evil." She was eternally in search of the "wise man," and thought that hunger, thirst, pain, the loss of friends, and all the other ills that assail this worthless and contemptible soul-case, could be baffled by some superlative, transcendental, ultra-mundane state of the soul itself. What a perversion here of the name, the ends, and the uses of divine PHILOSOPHY! What a caricature on the benevolent attributes and objects of Wisdom! Advanced as the ancients were, in some sciences, up to the modern standard, and in others possessed of principles of inestimable value, the good of mankind, the physical comfort of the race, the increase of human power, the subjugation of nature's laws, material progress and amelioration, entered not into the dreams of those, who in the Academy and Portico, wasted on abstractions the divine energies of Thought, or wrapped in esoteric exclusiveness, those treasures of Wisdom and Science, God-appointed, like the sunlight and rain, to a beneficence, impartial, undiscriminating, and universal.

When Christianity triumphed over Paganism, these absurdities of the old PHILOSOPHY, were engrafted upon the new religion, and the reign of barrenness and desolation, was prolonged for several centuries, by the Schoolmen squander-

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ing on dialectic subtleties, an amount of intellect, hardly inferior to that, which the Platonists had lavished, on these phantasmagoria of brain. While the PHILOSOPHY of the world, was thus on the cloud-capped mountains, of visionary speculation, isolated, insulated, as it were, from the wants and business of daily life, the USEFUL ARTS were toiling on, in the hot and dusty plain, in hand-to-hand conflicts with man's necessities and wants, struggling blindly and recklessly under the heavy load, trying one random experiment after another, without knowledge or principle to direct them, abandoned by their guides, having received no counsel or aid from Science, from the age of Archimedes, to the age of Galileo. Uncared for by Astronomy or Mathematics, during the long night of the Middle Ages, the mariner crept along the threatening lee shore, from headland to headland; the husbandman, in utter darkness as to the constituents of soil, employed no more perfect means of culture, than Jacob might have used, on Laban's farm, and the Mechanic, desponding of further assistance from the Natural Sciences, sank down, in a sort of dogged despair, with such tools and implements, as had descended to him, from the first apprenticeship of the Arts. William the Conqueror led his army, from Normandy to England, with no better means of transportation, than Ulysses had used, in leading his hardy islanders, from Ithica to Troy, and the same kind of weapons, smote our Anglo-Saxon forefathers, with which Joshua smote the Canaanites.

As late as the middle of the fourteenth century, our own ancestors, in "Merry England," were no better skilled in the working of metals, and the weaving of fabrics, than were the inhabitants of forgotten Tyre, and patriarchal Damascus. And in houses, house-hold equipments, and what are now regarded, as the mere necessities of life, were hardly upon a par with Robinson Crusoe, in his desolate island. Even down to the time of Charles the Second, Dublin was further from London, than Sebastopol is now, and Boston merchandize was longer in reaching Hartford, than it now is in reaching Iowa. In the reign of William and Mary, and of Louis XIV.,

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a French fleet which swept the Channel, is represented, as composed in great part, of galleys resembling rather those ships with which Alcibiades and Lysander disputed the sovereignty of the Ægean, than those which contended at the Nile and at Trafalgar.

Yes, to this ignorance on the part of PHILOSOPHY, of its true mission, the USEFUL ARTS owe a servile bondage, of twice ten centuries, to the blind guides of tradition, and the narrow teachings of personal experience. Under such tutelage, they limped and staggered along the path of improvement. But while thus bereft and at the same time performing unassisted, all the drudgery of society, before the eclipse that darkened and veiled the sun of science had entirely passed away, as an antepast of the blessings they would dispense, when he burst upon them in full-orbed, meridian splendor, they were enabled to give the Telescope to Astronomy, the Mariner's Compass to Navigation, Gunpowder to War, and to Letters, that second savior of the human family, the glorious art of Printing.

It was more than twenty years after the commencement of the seventeenth century, before the Utilitarian Era may be said to have dawned. When Lord Bacon gave to the world a new method of interrogating nature, and declared that the "*end of all science is to enrich human life with useful inventions and arts*," he annulled the long divorce, between PHILOSOPHY and LABOR, harmonized Thought and Work, and thus two seraphs, which since the fall, in separate spheres, had burned and sung, now blended in a common beam, and swelled a common harmony.

What countless blessings have sprung from this auspicious union! When the voice of Spring passes over the frozen North, the silent and ice-locked water-courses, run sparkling and babbling to the sea; the stripped and mournful trees, throw all their gaudy ensigns, and pennants, and fluttering streamers to the fragrant breeze, the air is musical with the liveliest notes of birds, and the living green of the earth, is almost peopled with those fairy folk,—the flowers: in a word, Life springs from Death, as if some divine voice had

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[illegible] the [illegible] of the world. A change as wonderful as that [illegible] in the [illegible] separates the world between the Middle Ages and the New Philosophy. The [illegible] was passed, and the striking [illegible] the years of [illegible] were ended, and the years of [illegible] childhood. The thought of the world was turned from [illegible] to the [illegible] of Nature, and from [illegible] to [illegible]. What might be certain [illegible] from conditions, and what could not from the [illegible] of matter, to theories which were true [illegible], and to projects which were practicable. For the first time, those [illegible] powers, the will, and [illegible] and strength of the race, united harmoniously for their [illegible] to the wheel of progress and amelioration. Invention followed invention, discovery discovery. Nature began to surrender her secrets and powers. Man, for the first time, began to possess the Earth: for him, the ground brought forth abundantly: for him, Old Ocean smiled waves: for him, waited on the willing Air, came the "spicy gales of Araby the blest:" to him bowed the winds and the waves, and Steam, Electricity, Galvanism, assumed the place of Man, their master, as humbly and willingly, as the ox and the horse.

In the benefits dispensed, by this harmonious co-operation of Science and Labor, no class of mankind *has participated more largely than the laborers themselves.* It has united intellect and work, and wiped out the narrow and conventional distinction between the thinker and the worker, for the worker is now often thinking, and the thinker working, and their thought has been made healthy by labor, and labor happy and honorable by thought.* In the place of his own limited experience, it has given him, the accumulated experience of all generations of men, reduced to principles, and systematized to laws. It has warned him away from aims that were visionary or impossible, like the pursuit of the perpetual motion, and guided him into paths that would certainly lead to new and valuable adaptation of Nature's laws. It has

* Mr. Ruskins' "Stones of Venice," suggests this idea.

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economized all the forms and processes of labor. It has lifted the intolerable load, which formerly ground him to the dust, precluding all intellectual and moral culture, and placed it upon the untiring muscles and sinews of inanimate machinery. It has sharpened his intellect, enlarged his perceptions, elevated his position, increased his comforts and enjoyments, improved his health and lengthened his days.

The beneficent influences of this union, *upon the general welfare of mankind*, is of itself a theme which a folio could not exhaust.

We are told of a Geological Era, when the globe was only suited to fishes, saurians, and cold-blooded animals, and that great elemental and organic changes were required, to adapt it to be the dwelling-place of man. Since the harmonious co-operation of Work and Thought, the USEFUL ARTS have completed, what this Geologic revolution commenced, and have finished up the world as a habitation, not only for man the animal, but for man the moral, intellectual, social, industrious, aspiring being. Its heat, frost, lightning, water, darkness, and exhalations, they have rendered innoxious, by equipping him with armor and weapons, that securely defy them all. They have broken through, or leveled down its mountainous upheavals, that Man might circulate broad and free. Its rivers, friths, arms of the sea, and the sea itself, they have bridged, with subaqueous telegraphs and steamships, that to all nations, might be dispensed those blessings, which formerly hovered over a few enviable Edens, and that the interchange of business, and of all friendly offices, between all earth's families, might be as frequent and as facile, as if they were but one community.

Its space and distance, which formerly rendered the different nations, as much strangers to each other, as they are to the inhabitants of Saturn, the USEFUL ARTS have broken down and annihilated. Within one short month, the artisans and scholars of all lands, can now be gathered together in some central Crystal Palace, and in half a month, the armies and the armories of Western Europe be thrown upon the Euxine. Many of its diseases, which once, swept him off in

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masses, they have extinguished, and have rendered safe for himself, broad expanses of his domain, where before, pestilence and miasmas could only be acclimated. The Montgolfier, the Safety Lamp, and the Diving Bell, have vindicated his right to possess and occupy the Air, the Caverns, and the Sea. In short, Life, Health, Happiness, Comfort, Manufactures, Commerce, Art, Letters, all the great interests of society, have been improved, promoted, perfected, by the USEFUL ARTS, since this new evangel: and I must dismiss this part of my theme, with this imperfect generalization, because this part of it is endless.

Glance now, for a moment, at the *social and political influences* of the USEFUL ARTS, under the new dispensation.

Race, Climate, Soil and Government, were previously recognized, as the grandest instrumentalities, in changing the seats of civilization and empire. But in the august procession of causes, that lead to such magnificent results, they must now yield the precedence to the USEFUL ARTS. The invention of Whitney, adjusted the social position and relations of our Southern brethren, more decisively, than their cotton-perfecting soil and climate. In her Titanic struggle with France, during the first half of the present century, England was as much indebted to Watt, as to Wellington, and to Arkwright, as to Nelson. In peopling and civilizing the wilderness, the institutions of Government, must hide their diminished heads, in the presence of the institutions of Steam. What government, laws, or system, or code of laws, could have done so much for our Mississippi Valley, as the practical development of the great idea which germinated in the brain of JOHN FITCH, of Windsor. It would almost seem, that they were the counter-parts of each other; that the Mississippi Valley was unfinished until the Steamboat was added to it, and that the Steamboat was incomplete until it was stemming the majestic current of the Father of Waters. What woes population in old Connecticut, from the hill-tops to the valleys, like the whistle of the Locomotive? What stretches out the city into the country, and shoves the country on to the city, like the Railroad? What

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is blending nations together, and blotting out the confusion of tongues, like the Steamship? To what are we indebted for the social unity of the Republic? Primarily, doubtless, to common historic antecedents, to a common language, common institutions and interests. But all these connecting ties have existed, at other periods, and under other conditions, and yet—

> "Lands intersected by a narrow frith,
> Abhor each other, and Mountains interposed,
> Make enemies of nations, which else
> Like kindred drops, had melted into one."

We owe our exemption, from that distrust and alienation, which have hitherto overtaken homogeneous communities, scattered over wide belts of the earth's surface, to the beneficent agencies of the USEFUL ARTS. For the first time in the world's history, friths and mountains, and rivers, and space, are no barriers, to the free and rapid interchange, of thought and feeling. The Railroad, the Telegraph, and the Double Cylinder Press, have so perfected intercommunication, "that as a matter of mere routine," (as it has been strongly and truthfully put,) "the intelligent community from Portland to New Orleans, from Savannah to Chicago, read the same public information, in the same version of it, and the reflecting minds of the whole country are brooding upon the state of affairs in every part, and maturing their judgment concerning it, at the same moment; and when the high debate opens, when the powerful writer or the great orator, utters the developed sentiment of one region, and confirming echo or bold challenge answers from another, proposition and reply, assertion and replication, are alike submitted to the simultaneous judgment of the whole community. It is then no mere fiction or hyperbole, to speak of a nation of twenty millions, as sitting in perpetual council, subjected ever to the same kind of impression, and permeated with the same currents of influence, as swayed the fierce democracy of Athens, driven within the scarlet cords of the Lexiarchs, or

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[illegible] the Sub-marine [illegible] In the [illegible] [illegible] Sub-marine [illegible] Hell-gate another, which differed [illegible] from the one recently lost between Nova Scotia and Newfoundland, in this respect, that in the latter, gutta-percha was used as an insulator, whereas in the former, gutta-percha being then unknown, a combination of asphaltum and bees-wax was used as an insulator. He actually had in working order, an Electro-Telegraph between Coney Island and the Merchant's Exchange, in which this Sub-marine cable was a part of the communication. I, therefore, file my caveat here, in behalf of Col. Samuel Colt, of the City of Hartford, for the invention of the Sub-marine cable.

I have frequently attempted to divine, what would be the emotions of an intelligent mind, if all the surprising revelations of modern art, burst at once upon it, instead of overcoming its special wonder, by their single approach, and slow

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* *Oration* on "Public Life," by William M. Evarts.

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and gradual development. Suppose the stately form of the Apostolic Hooker,* could rise from yonder grave-yard, and gaze once more on this beautiful valley, how would his mind, richly furnished with all the learning of his time and ingenious and God-trusting, beyond his fellows, regard the changes which two centuries have wrought? Let us meet him, after the first glow of gratitude and admiration, have faded from the manly beauty of his countenance, at finding cities and villages, in the place of the overarching forest, and cultivated farms, instead of an unbroken wilderness. All this, astonishing and wonderful, as indications of progress, were within the range of his anticipations and hopes. Cities as large, villages as flourishing, he had seen before. Let us meet him, when his inquiring mind, is attempting to fathom some modern enigmas, which shock and startle, all the deductions of his science, and all the suggestions of his past experience.

He might expect to find, that even the rich alluvial of the valley, worn out by two hundred years of tillage, had driven his murmuring descendants, into another Exodus, from their ancestral seats. But he learns, that by a process, called the rotation of crops, and by adapting newly discovered fertilizing agents, to the chemical affinities of the various soils, that great mother bosom, the earth, is as unexhausted and prolific, as when he first looked upon its charms, in the sacred solitude of nature. We will say nothing of his surprise, at finding Brindle and Spot, which dragged his wagons from Cambridge, superseded by cattle of blood and lineage, the lordly Devon, and the high-bred Durham, or at finding the stately Saxon and Merinos, in the place of the coarse-wooled dwarfs, or the bow-legged otters, nor of his glance of mingled astonishment and contempt, at the gallinaceous Brobdinags which have invaded the dunghill.

With what unfathomable wonder he surveys those glittering points on chimney-top and steeple, which guide the

*In this speech as originally prepared, I had intended to use "Hooker," as the representative of the past. When it was delivered in New Haven I used the name of "Davenport" as more appropriate to the locality, and varied the sequel accordingly. The text now follows the original manuscript.

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lightning "innocuously from heaven to earth;" these attenuated wires that flash along the thought of widely separated communities, and searches in vain, for this invisible fluid that "lights up the night with the splendor of day?"

As he gazes round the horizon, he was prepared to find the cattle-path, which led him through the wilderness, grown into the smooth and convenient highway, but he sees an immense causeway, stretching off beyond the reach of his vision on an unbroken level, and on it, (drawn by an agent, whose sole function in his time, was to lift the lid of his dinner-pot, or sing in the nozzle of his tea-kettle) a conveyance, which,

> "Singing through the forest,
> Rattling over ridges,
> Shooting under arches,
> Rumbling over bridges,
> Whizzing through the mountains,
> Buzzing o'er the vale,"—

would carry him and his colony, luggage and live stock, over that long and weary march of fourteen days, in four short hours. As it rushes over its iron track, with wings of fire, he is not in sober Newtown but in a land of Genii, enchanters, magicians! In examining more closely, the snorting, fire-breathing monster, which drags this immense load, at such marvelous speed, he recalls in vain the hydras and dragons, the gorgons and chimeras dire, of his classic reading, for its type or parallel, and with all his senses confused, and his previous knowledge and associations, utterly confounded and bewildered, by its preternatural ferocity and strength, he can only lift his hands in holy horror, as he thinks of the terrible beast in the Apocalypse, or apostrophize it in the language of one of his devout descendants, "Hell in a Harness!"

Instead of the bark canoe, which skimmed its placid waters, when he last gazed on the loveliest of rivers; instead of the tall galleon—spoil of vanquished Spain,—or those huge English war-dogs, that under the great Lord Protector, plucked the laurels of Van Tromp,—some of which he may have seen, ere he left his island home, he beholds sea-palaces, miracles

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of naval architecture, spreading no canvass to the favoring breeze, but puffing, whistling, screaming, and belching volcano-like smoke and flame, they walk the waters, with incredible velocity and power, moving backwards, forwards, in all directions, turning, tacking, veering, defiant alike of wind, waves, and current, and of all sailing rules, invented by merely mortal mariner. They upset the infallible certainties of science, violate the laws of nature, run counter to all his experience, and gazing upon them, as he would upon Orion or the Pleiades, the infinite awe and reverence of the man can find but this utterance—"How wonderful are thy works, in wisdom Thou hast made them all."

On all sides he would see edifices, that in their vastness, remind him of the monuments of Egyptian or Roman grandeur, but not reared as mausoleums to kings, or votive offerings to the Gods, but temples of industry devoted to the welfare of man, and in their spacious halls, he would see the benignant genius of machinery, "summon around him his willing myriads, assign to each the regulated task, substituting for painful muscular effort, on their part, the energies of his own gigantic arm, and demanding in return, only attention and dexterity, to correct such little aberrations, as occasionally occur in his workmanship."

In the whole circle of modern improvements, there is nothing to which he bends with such profound homage, as the magical powers of machinery. He is dumb with amazement to find, that matter can be so animated by genius, as to perform with skill, exactness, and precision, all the various, complicated, and delicate functions, of the human hand, alike dexterous, in weaving the most gossamer-like threads, in whittling and shaping, to any conceivable form, the hardest metals, in rending rocks, crimping paper, and sticking a pin. With what emotions he would bend over a power-loom, or a sewing-machine, or a screw-machine, or a steam-plough, or wonder of wonders, a "Steam Paddy," grubbing, digging, picking, excavating, embanking, performing most of the functions of its animate name-sake.

When he sees too, that the gross and sensualizing tenden-

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cies, of so much material prosperity, are chastened by the cultivation of the ideal, and by the refining influences of the liberal arts, and that Churches, Colleges, Schools, Academies of Painting and Sculpture, follow the pathway of the Steam-Engine and the Power-Loom; when he sees too, that the guardians both of man's spiritual and material interests, are here working in harmonious coöperation, and that along the iron track of the railroad, and the iron wires of the telegraph, run not only matter and mind, but the eternal plans of Providence, everlasting Truth and Right; when he sees that the poor, tender, persecuted vine which, with so many prayers, and tears, and sad forebodings, he had planted in the wilderness, has been watched, and watered, and guided, by the God of the desolate and oppressed, the stern heart of the old Puritan, melting into joy and gratitude, breaks forth, in the exulting imagery of the Psalmist's peon,

"Thou brought a vine out of Egypt, Thou cast out the heathen and planted it, Thou madest room for it and it filled the earth. The hills were covered with its shadow, and the boughs thereof, were like the goodly cedar trees. She stretched forth her branches unto the sea, and her boughs to the river."

The world is not yet finished! God has indeed completed his six days' work, but the dawn is now purpling the East, in the first, of man's countless days of labor.

The Future opens before us with the most auspicious omens, and in inconceivable grandeur. We can not indeed lift the veil, but the analogies of the past, throw such rays and scintillations into the void, that we can for a moment fathom its depths and penetrate its gloom. All inventions and discoveries are procreative. The spinning wonder of Arkwright speedily begat the weaving wonder of Cartwright. The railroad is the legitimate progeny of the steamboat. The Ambrotype, the Photograph and sun-painting in colors, were all within the grasp of time and patience, when Daguerre succeeded in arresting, the fleeting image of the Camera. Every year now, adds more to the usefulness of steam, than the two hundred years, that separated Watt from Worcester.

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It is thus that every new conquest becomes a point of vantage gained—a parallel carried—a Malakoff taken, from whence new batteries can be directed, and redoubled energies turned, upon the undiscovered and unknown. All the science too of the world, and a large proportion of its intellect, at this era, culminate upon the single point of practical aggrandizement. Astronomy is not now calculating nativities, while the mariner is struggling in the breakers, nor chemistry using quicksilver as an amalgum only, while the miner and metallurgist are separating the ore, by wearisome processes, nor mechanical philosophy flying off in search of the perpetual motion, while the cotton-planter picks out the seed from the fiber, with his fingers.

In the light of such facts and analogies, and in that of the progressive law of coöperating Thought and Labor, and of past experience, we repose securely upon the conviction, that the realities of THE FUTURE, will immeasureably transcend the wildest dreams of prophecy. We seem sailing along the very borders, hearing the ripple that breaks upon the shore, where the USEFUL ARTS are finally to be installed, in absolute and immutable perfection. The cloud lifts, and we catch, for a moment, a glance at the wonders beyond. We see meadows and pastures green, oppressed with unknown varieties of vegetable life, the barren places of the earth, rejoicing in such crops, as the Nile might have witnessed, in those seven years of plenty. The air is navigated, the mountains leveled, great arms of the sea bridged with cables or spanned by arches. We strive in vain, to estimate the infinite progeny, that have sprung from some well-known invention. We see heaped together, in all the beautiful and fantastic shapes of a magical Architecture, piles upon piles, of granite, marble, and iron, towering upward to the clouds, in their vastness, resembling the mountainous upheavals of the convulsed earth, and in splendor and gorgeousness, that celestial city which Bunyan saw in vision. We stand beneath domes, compared with which, St. Peter's is as an emmet's tumulus, and before palaces, in whose vestibule the Vatican might be lost. We guage and measure the capacities, of new powers and forces

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added to the resources of man, beside which Steam is weak and Electricity slow. We behold machinery so marvelous in strength, adaptation, and economy, that the steam-engine has been driven into the museum of the antiquary, and the spinning-jenny discarded, as a toy of childhood. We see curious workmanship wrought from new metals, or new combinations of the old ones, and beautiful fabrics, fitting in and supplying wants and necessities, now unanswered, and all woven from natural products, as much unknown to us, as cotton to the Saxons, or caoutchouc to the Chaldeans. Winding around an immense plaza, sparkling with jets and fountains, here somber with the umbrage of unknown monarchs of the wood, there gay, gaudy and fragrant with a tropical vegetation, surpassing an Epicurean's dream, and everywhere adorned with the colossal images of immortal inventors and contrivers, we see, (celebrating some high festival of industry, or inaugurating an Agricultural Fair, in the 25th century,) a triumphal procession, jubilant with the shoutings and rejoicings of emancipated labor, radiant with ruby and amethyst, with diamonds and pearls, the spoils of the sea and the land, with the crowns, trophies, and ensigns of vanquished nature, with the emblems of new arts, manufactures, and handicrafts, and proudly preëminent among them all, though chained to the victorious car, the terrific elements that have been discovered and enslaved; and on the architrave of the vast temple that flings open its golden gates, to receive the exulting multitude we read, as an incentive to industry and enterprise even in the presence of seeming perfection—

"WORK ON, WORK EVER—THE WORLD IS NOT YET FINISHED."

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REPORTS OF JUDGES,

AND

Awards of Premiums,

AT THE

STATE FAIR IN HARTFORD,

1855.

CLASS I.

COMMITTEE NO. 1.—DURHAM SHORT HORNS.

The Committee on Durham Short Horn Bulls, respectfully report:—Your committee were highly gratified to find so large a number of male animals of this noble race on the ground, most of them of a high order of excellence, particularly in that point esteemed so essential in fine cattle at the present day, their handling. This valuable breed is remarkable for its excellence in this point. The farmers of Connecticut have reason to congratulate themselves that there are within their borders, so many fine *thorough bred* Short Horn Bulls, and that most of them were bred in Connecticut, demonstrating the fact that Connecticut skill on Connecticut soil can produce pure Short Horn cattle of decided merit; although we hope to see great improvements. Your committee can not particularize, where all are so deserving, but would say that the Exhibition was highly creditable to the several owners and breeders. The committee tender their thanks to the several owners and gentlemen having the animals in charge, for the promptness with which they were shown off. After due deliberation and careful examination, they submit the following awards:

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Bulls, three years old and upward.

1st premium,	A. T. Hale, Glastenbury, "Fabius,"	-	$25
2d do.	Lyon & Sumner, South Woodstock, "Czar,"		15
3d do.	Thomas Cowles, Farmington, "Prince of Orange,"		10

Best two years old.

1st premium,	Bartlett & Allen, E. Windsor, "Powhattan,"		$20
2d do.	Timothy Mather, Hartford, "Mohawk,"	-	12
3d do.	F. H. North, New Britain, "Tornado,"	-	5

Best one year old.

1st premium,	G. C. Hitchcock, N. Preston, "The Count,"		$15
2d do.	C. H. and P. T. Wells, East Windsor, "Henry Clay, 2d,"	- - -	10
3d do.	Thomas Cowles, Farmington, "Nevertire,"	-	5

Best Bull Calf.

1st premium,	G. C. Hitchcock, N. Preston, "Gen. Washington,"		$5
2d do.	W. L. Cowles & Son, Farmington, "Grand Duke, 2d,"	- - - -	3
3d do.	Thomas Cowles, Farmington, "Connecticut,"		3

All of which is respectfully submitted.

S. W. BARTLETT.
MILTON HATHAWAY.
SOLOMON COLE.

COMMITTEE (B)—SHORT HORNS.

To the Secretary of the Connecticut State Agricultural Society.

The Committee (B) on Short Horns, having Cows, Heifers and Calves assigned them as their share of the duties, would respectfully report:—There were offered for examination about fifty in number, a large portion of which were Cows over three years old, the general appearance of which was creditable to the State, the exhibitors, and

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your Society; showing pure blood and careful attention in all matters relating to breeding pure stock.

Your committee regret that in a few cases the exhibitors were unable or did not furnish authentic pedigrees of their stock as required by the regulations of your Society, and feeling unwilling to recommend or indorse any animal as pure blood, without sufficient vouchers, we excluded them from the list. Your committee noticed several cows advanced in years, (one fifteen,) vigorous, and showing good milking qualities—showing their adaptedness to our soil and climate; and the high condition of those not in milk, showing their natural inclination to take on flesh.

Of the Heifers, one and two years old, your committee would say, they are the offspring of a good stock, which we recommend to the public.

Of the *Calves*, your committee met with some difficulty; they were from two to nine months old, at which age it is somewhat difficult to judge which is or will be in future the best. They would like to see them at your next annual *Show*, and find which has made the greatest improvement.

Your committee would notice the attention of the Marshal having charge of this class of cattle, for his gentlemanly attention.

Your committee have awarded as follows:

Cows.

1st premium,	George C. Hitchcock, New Preston, for his Cow, four years old, - - -		$25
2d	do.	W. L. Cowles, Farmington, for his Cow, nine years old, - - - -	15
3d	do.	S. W. Bartlett, E. Windsor, for his cow, eleven years old, - - - -	10

Heifers, two years old.

1st premium,	Thomas Cowles, Farmington, - - -		$20
2d	do.	S. W. Bartlett, East Windsor, - -	12
3d	do.	E. A. Phelps, Avon, - - - -	5

Heifers, one year old.

1st premium,	George C. Hitchcock, New Preston, -		$15
2d	do.	W. L. Cowles & Son, Farmington, - -	10
3d	do.	G. F. Hubbard, Glastenbury, - -	5

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Calves.

1st premium,	W. L. Cowles and Son, Farmington, -	$5
2d do.	E. B. Bishop, New Haven, - -	3

All of which is respectfully submitted.

DAVID C. WHITTLESEY.
A. NORTON.
M. LYMAN.

COMMITTEE NO. 2.—DEVONS.

The entries in this class were so numerous as to make it necessary to constitute another committee and divide the animals into two classes; bulls in one, and cows and heifers in the other. The former was assigned to us, the original committee. We have much reason to be proud, that it was our privilege as well as our duty to examine so large a number of so beautiful animals. Animals of so much purity of blood, will do much to improve our neat stock, whether they be used in propagating either full bloods or grades. They partake much of the symmetry and delicacy of the deer, in the head, shoulders and legs, and may properly be esteemed the *blood* species of our neat cattle. In size not large; their hide of excellent substance and suppleness, mostly covered with a coat quite sleek and smooth, and occasionally wavy, with beautiful clear and clean horns; in aptitude, docility and activity, they excel any other stock for work. As milkers, they may be less valued for the quantity than the quality, yet they are good provers to the pail.

We are happy to say it has never been our privilege to witness so good a Show; highly creditable both to the contributors and to the State, and we think not excelled by any of our sister States.

There were thirty bulls examined by us. They attracted much attention, and deserve far more premiums than the Society has offered. We have awarded only such as were ordered. After a careful, and we hope impartial examination, we have awarded premiums to those in order as our judgment has directed. We remark as follows:

J. N. Blakeslee's "Prince Albert," a six years' bull, was a very fine animal, and his stock by his side prove him a valuable sire.

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Also, a three years old bull, presented by J. D. Cowles, was an animal of merit.

The committee were unanimous in awarding the following premiums to those three years old and upwards:

1st premium,	N. B. Phelps, Wolcottville,	- -	$25
2d do.	Chester Elmer, West Hartford,	- -	15
3d do.	R. A. Ford, Litchfield,	- - -	10

There were five entries of two years old Bulls.

Very good animals were offered by Allen C. Griswold and N. B. Smith.

Premiums awarded as follows:

1st premium,	S & L. Hurlbut, Winchester, "Roscius,"		$20
2d do.	F. H. North, New Britain, "Albert,"	-	12
3d do.	Levi Coe, Middletown,	- - -	5

There were seven entries of yearling Bulls.

There were entered in this class, for which we could award no premium, by Wm. L. Cowles, of Farmington, Red Jacket, and Exchange; they deserve much credit. Also, fine animals were offered by J. L. Cowles, Farmington. Isaac Backus offered a good bull.

Premiums were awarded as follows:

1st premium,	Stanley Griswold, Torringford,	- -	$15
2d do.	Francis W. Cowles, Farmington,	- -	10
3d do.	Stanley Griswold, Torringford,	- -	5

There were eleven entries for premiums for Bull Calves.

This was a fine Exhibition, and would involve a committee in more doubt than any other department, in arriving at a conclusion to give satisfaction. It is possible that another committee would have arrived at a different result. Three bulls were entered by S. & L. Hurlbut, all highly meritorious. Wm. L. Cowles & Son, Farmington, offered Gladiator, an animal of high blood and pedigree, emanating from a very high and respectable family, and deserving particular mention; also, Comet, a calf five months old, was deserving. A very good and the largest calf entered for premium, was entered by John T. Andrew, of West Cornwall, and deserves particular notice. A very fine calf was entered by Linsley Brothers, of Meriden, and one by Levi Thrall.

There being only two premiums in this class, we award as follows:

1st premium,	S. & L. Hurlbut, Winchester,	- -	$5
2d do.	J. N. Blakeslee, Watertown,	- - -	3

The committee instructed its chairman to remark, that two bulls

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were exhibited, and not offered for premium, by E. H. Hyde, 2d; a two year old bull, Kossuth, deserving particular notice; also a calf, Czar, four months old, and perhaps the largest of his age, exhibited; he deserved praise.

All of which is respectfully submitted.

E. H. HYDE, 2D, STAFFORD.
WM. W. BILLINGS, N. LONDON. } *Committee.*
JOHN C. AMBLER, BETHLEM.

COMMITTEE NO. 2. (B.)—DEVONS.

The Committee on Devon Cows, Heifers and Calves, report upon the ground forty-eight head. The most numerous collection of these was exhibited by Messrs. S. & L. Hurlbut, of Winchester. These gentlemen had upon the ground eighteen animals. The fine condition and qualities of these and most of the others, indicated a very commendable and honorable competition among the owners of this beautiful breed of cattle.

Your committee decide to award the premiums as follows:

Best	Cow,	3 years old	and	upward,	J. T. Andrew, W. Cornwall,	$25
2d	do.	do.	do.	do.	S. & L. Hurlbut, Winchester,	15
3d	do.	do.	do.	do.	J. N. Blakeslee, Watertown,	10

Your committee also recommend a discretionary premium on this class of stock, of $5 to each of the following parties: S. & L. Hurlbut, of Winchester; W. L. Cowles & Son, Farmington, and Linsley Brothers, West Meriden.

Best	Heifer,	2 years old,	S. & L. Hurlbut, Winchester,		$20
2d	do.	do.	J. N. Blakeslee, Watertown,		12
3d	do.	do.	F. H. North, New Britain,		5

We recommend discretionary premiums of $3 each, to W. H. Gaines, of Bloomfield, and John Whitman, of West Hartford.

Best	Heifer,	1 year old,	S. & L. Hurlbut, Winchester,			$14
2d	do.	do.	do.	do.	do.	10
3d	do.	do.	R. W. Griswold, Torringford,			5

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Best Heifer Calf, J. T. Andrew, West Cornwall, - - $5
2d do. do. J. N. Blakeslee, Watertown, - - 3

All of which is respectfully submitted.

R. H. PHELPS.
W. H. PUTNAM.
ED. HICKOKS.

COMMITTEE NO. 3.—HEREFORDS, AYRSHIRES AND ALDERNEYS.

The Committee on Hereford, Ayrshire and Alderney Cattle, submit the following report:—No Hereford stock was offered for competition or exhibition, and but few specimens of the other breeds.

One fine Ayrshire cow, a beautiful animal, was exhibited by Robbins Battell, of Norfolk. This animal having obtained the first premium at the last Exhibition, was not offered in competition for premiums.

There were two fine Alderney cows, presented by John T. Norton, of Farmington, noble specimens of this blood. Your committee here desire to express their regret that so few of this fine breed of cattle were entered. They believe cows of this blood can not be surpassed in certain qualities. They are remarkably docile and easily kept; their milk is very rich, and produces butter that can not be excelled by any breed of cows. The following premiums are awarded:

Ayrshires.

Best Heifer, 2 years old, Robbins Battell, Norfolk, - - $15
do. do. 1 do. do. do. - - 10
do. Bull Calf, do. do. - - 5

Alderneys.

Best Heifer, 2 years old, "Lily," John T. Norton, Farmington, $15
do. Bull Calf, S. W. Ely, Bloomfield, - - - 5

Your committee recommend the following discretionary premiums:

For Ayrshire Bull, 2 years old, Robbins Battell, Norfolk, $10
do. Alderney do. do. George Tuttle, Hartford, 7
do. do. do. 1 year old, W. Barnes, Bristol, - 5

All of which is respectfully submitted,

R. B. CHAMBERLIN.
L. HURLBUT.

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COMMITTEE NO. 4.—IMPORTED STOCK.

The Committee on Imported Cattle have attended to the duties assigned them, and respectfully submit the following report of awards, *viz.:*

Best imported Durham Cow, 3 years and over, George C. Hitchcock, New Preston, for his cow "Smile," 5 years old, $25
do. do. Durham Heifer, 2 years old, George C. Hitchcock, New Preston, - - - - 20
do. do. Devon Bull, 4 years old, Linsley Brothers, Meriden, 25
do. do. do. Cow, do. do. do. do. do. 25
do. do. Alderney, "Jenny," 4 years old, John T. Norton, Farmington, - - - - - 20

A discretionary premium is recommended to George C. Hitchcock, of New Preston, for three very fine Durham Cows, "Myrtle," "Belle," and "Forget me not," $10. To M. E. Anderson, of Lyme, for Durham Bull, 3 years old, $3.

SAMUEL H. HUNTINGTON.
T. S. GOLD.
JNO. H. BISSELL.

COMMITTEE NO. 5.—GRADES. CROSS BETWEEN NATIVES AND THOROUGH BRED CATTLE.

The Committee Class I, No. 5, Grades, cross between native and thorough bred Cattle, having attended to the duties of their appointment, respectfully report:—That owing to the large number of entries and the almost universally superior quality of the stock presented for their inspection, it was with difficulty that they were able to decide upon those entitled to the premiums; but have, after due consideration, decided to award as follows:

Best cow, 3 years old and upward, A. E. Burr, Hartford, $25
2d do. do. do. do. G. A. Hunn, do. - 15
3d do. do. do. do. L. W. Thrall, Wolcottville, 10

The committee would make honorable mention of excellent cows exhibited by gentlemen as follows: Truman Kellogg, of New Hart-

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ford; B. G. Sperry, of South Windsor; R. Parker, of Warehouse-Point; F. W. Cowles, of Farmington.

Best Heifer, 2 years old,			Hamilton Brothers, West Hartford,	$20
2d do.	do.	do.	R. W. Griswold, Torringford, -	12
3d do.	do.	do.	Frederick Deming, Farmington,	5
Best Heifer, 1 year old,			S. Thomas, Jr., Plymouth, - -	$15
2d do.	do.	do.	Milton Hathaway, Suffield, -	10
3d do.	do.	do.	F. H. North, New Britain, -	5
Best Heifer Calf,			W. H. Yale, Meriden, -	$5
2d do.	do.		Sanford Grant, South Windsor, -	3

The committee were instructed to examine and report upon grade bulls, and though no premiums are offered, respectfully suggest that a gratuity of $3, be presented to Truman Kellogg, of New Hartford, for bull calf, four months old, and one of $2 each, to F. H. North, of New Britain; James Stanley, of New Britain; S. M. Welles, of Wethersfield; E. Lattimer, of Bloomfield; Charles Richards, of Bristol; Samuel C. Paddock, of Meriden, and A. & T. Jerome, of Bloomfield, for bulls and bull calves, that honored the exhibitors and the Exhibition.

Respectfully submitted,

H. L. READ.
T. W. COWLES.
BENJAMIN SUMNER.

COMMITTEE NO. 6.—NATIVES.

The Committee on Native Stock, beg leave to report:—They have carefully examined the stock that they could find, that were entered on their book, and have awarded the premiums as follows:

Best Cow, 3 years old and upward,			Calvin Coe, Meriden, -	$25
2d do.	do.	do.	Jonathan Goodwin, Hartford,	15
3d do.	do.	do.	Wm. Mather, do.	10
Best Heifer, 2 years old,			A. & T. Jerome, Bloomfield, -	$20
2d do.	do.		Levi Coe, Middletown, -	12
3d do.	do.		Charles T. Webster, Hartford, -	5
Best Heifer, 1 year old,			D. Barnes, Middletown, -	$15
2d do.	do.		Wooster B. Seymour, Hartford, -	10
3d do.	do.		Thomas Cowles, Farmington,	5

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Best Heifer Calf, H. A. Giddings, Hartford, - - $5
2d do. do. E. B. Bishop, New Haven, - 3

We recommend discretionary premiums of $3 each, to W. E. Cowles, of Canton, and Milton Hathaway, of Suffield, for heifers that were not seen at the time of making the previous awards.

All of which is respectfully submitted.

CHARLES HUBBARD.
HARVEY KINGSBURY.

COMMITTEE NO. 7.—WORKING OXEN, SIX YEARS OLD AND OVER.

The Committee on Working Oxen, six years old and over, award the following premiums:

Best Yoke, 6 years old,		Middlesex Quarry Company, -	$20
2d do.	do.	John Barnard, Hartford, - -	15
3d do.	do.	Horace Hart, New Britain, - -	10
4th do.	do.	Lester Luce, Newington, -	5
Best Yoke, 7 years old,		Middlesex Quarry Company, -	$20
2d do.	do.	N. B. Smith, Woodbury, -	15
3d do.	do.	Silas Judson, do. - -	10
4th do.	do.	Eli Moore, Southington, -	5

All of which is respectfully submitted.

JOSIAH HAMMOND.
JOEL PECK.
W. T. RAYMOND.
} *Committee.*

COMMITTEE NO. 8.—WORKING OXEN, FIVE YEARS OLD.

The Committee on Working Oxen, five years old, respectfully report the following awards:

Best Yoke 5 years old,		D. Russell, Portland, - -	$20
2d do.	do.	S. M. Wells, Wethersfield, -	15
3d do.	do.	D. Russell, Portland, - -	10
4th do.	do.	John E. Cowles, Farmington, -	5

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In consideration of the fine action and good general appearance of the cattle belonging to the following named gentlemen, your committee would recommend discretionary premiums as specified: to Frederick Deming, of Farmington, $5; to H. B. Huntington, of Norwich, $5; to Eli Moore, of Southington, $3; to James Goodwin, of Hartford, $3; to John Barnard, of Hartford, $3; to F. H. North, of New Britain, $3.

All of which is respectfully submitted.

ELIAKIM HOUGH.
HORACE WHEELER.
SETH S. LOGAN.

COMMITTEE NO. 9.—WORKING OXEN, FOUR YEARS OLD.

The Committee on Working Oxen, four years old, report:—There were a large number of animals presented to this committee, so beautiful, and of so nearly equal merit, that it was difficult to decide which was best. After a patient examination, the committee have awarded as follows: for

Best Yoke,	4 years old,	Lester Luce, Newington, - -	$20
2d do.	do.	Alonzo Edgerton, West Granby,	15
3d do.	do.	L. A. Thrall, Torrington, - -	10
4th do.	do.	W. L. Cowles, Farmington, -	5

And discretionary premiums of four dollars each to Owen Goodwin, of West Hartford, and Ashbel Brewer, East Hartford.

The best pair, shown by E. C. Phelps, of Bloomfield, were withdrawn from competition.

JOHN T. ANDREW.
JOHN BARNARD.
SAMUEL H. ELLIS.

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COMMITTEE NO. 10.—STEERS.

Committee No. 10, beg leave to report:—That they have found it necessary, in order to do justice to the gentlemen whose stock came under their inspection, to divide it into two classes, Durhams and Devons.

A very large collection of three years old steers, and under, of both Durhams and Devons, about an equal number of each breed, were placed under your committee's inspection, and considering the importance to the state of encouraging the raising of fine steers, for upon them we are to depend for our future oxen, to grace this Society's annual festival, your committee do not hesitate to award the following premiums:

Best 3 years old	Durham	Steers,	E. H. Seymour, Hartford,	$12
2d do.	do.	do.	S. H. Ellis, Hebron, -	8
3d do.	do.	do.	Timothy Mather, Hartford,	5
Best 2	do.	do.	S. W. Bartlett, E. Windsor,	$8
2d do.	do.	do.	S. W. Wilcox, Portland,	6
3d do.	do.	do.	Timothy Mather, Hartford,	4
Best 1	do.	do.	Josiah Capen, do.	$4
Best Calves,	do.		A. & T. Jerome, Bloomfield,	$5
2d do.	do.		Grandison Barber, do.	3
3d do.	do.		A. Willey, Stafford, -	2
Best 3 years old	Devon	Steers,	N. B. Smith, Woodbury,	$12
2d do.	do.	do.	J. N. Blakeslee, Watertown,	8
3d do.	do.	do.	Lauren Tyrrell, Woodbury,	5
Best 2	do.	do.	N. B. Smith, do.	$8
2d do.	do.	do.	J. T. Phelps, Bloomfield,	6
3d do.	do.	do.	S. Griswold, Torringford,	4
Best 1	do.	do.	R. W. Griswold, do.	$6
2d do.	do.	do.	A. & T. Jerome, Bloomfield,	4

All of which is respectfully submitted.

JABEZ S. ALLEN.
ROYAL A. FORD.
H. A. JUDD.

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COMMITTEE NO. 11.—MILCH COWS.

The Committee on Milch Cows, beg leave to report:—That there are only four entries in this division, and that of these, we have been able to find only three of the animals. The owner of one only has strictly complied with the rules of the Society.

Mr. L. Tyrrell, of Woodbury, entry 419, exhibited a red cow, 7 years old, of medium size, whose milk in ten days in June, measured 176 quarts, and weighed 396 lbs., making 15 $\frac{14}{16}$ lbs. of Butter; and for ten days in August, measuring 162 quarts, and weighing 365 lbs., making 16 $\frac{9}{16}$ lbs. of Butter. At another trial of ten days in Sept., her milk weighed 356$\frac{1}{4}$ lbs., making 17 lbs. of butter.

To Mr. Tyrrell we award the first premium, - - - $25

Mr. E. H. Hyde, 2d, of Stafford, exhibited a superior cow, six years old, and Mr. Wooster B. Seymour, of Hartford, another of considerable value, eight years old.

As neither of these gentlemen had complied with the rules, their animals could not compete for the premium. But in view of their good qualities, the committee recommended a discretionary premium of $10 to Mr. Hyde, and of $5 to Mr. Seymour.

All of which is respectfully submitted.

JOHN S. WHITTLESEY, N. Britain.
MERIT W. BARNES, Watertown.
GEORGE A. PAINE, Woodstock.
} *Committee.*

COMMITTEE NO. 12.—FAT CATTLE.

The Committee on Fat Cattle, having attended to the duties of their appointment, beg leave to submit the following report:—Your committee would here state their exceeding regret, that so limited a number of animals of this class were entered on the books of the Society for exhibition, eleven being the whole number of entries; believing, as they do, that had the same spirit prevailed in regard to beef cattle that has been manifested in working oxen, Durhams, Devons and other classes of stock, there would have been an exhibition of beef cattle equally meritorious.

Your committee are very happy in being able to state that the

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smallness of number has been, in some degree, made up in the very superior quality of the animals exhibited. The four beautiful oxen exhibited by Mr. Lester Luce, and the white cow, by Solomon Cowles, of Farmington, would do credit to a world's fair. A pair of red oxen, five years old, which are said to weigh more than forty-six hundred pounds, are especially worthy of notice. For this pair of oxen we give the owner, Lester Luce, of Newington, the first premium of $20. To the same gentleman, for his beautiful pair of pied oxen, the second premium of $15. To Marcy & Squires, of Hartford, the third premium of $10—these cattle not above mediocrity. For the best cow, we award the first premium of $10, to Solomon Cowles, of Farmington. To Messrs. N. & S. A. Holcomb, of Hartford, we award the following premiums; for the second best cow, $6, for the best three year old heifer, $8, for the second best, $4. To Fred. Deming, of Farmington, for best ox, $10.

All of which is respectfully submitted.

PELEG C. CHILD.
TREAT CLARK.
S. S. LOGAN.

COMMITTEE NO. 13.—CATTLE FROM OTHER STATES AND CANADA.

Committee No. 13, on "Cattle from other States and Canada," would respectfully report:—That but one bull was submitted to their inspection under this class. Not being any competition, it simply devolved upon us to decide, and award the premium offered. After due examination and inquiry, the committee have no hesitation in pronouncing him a first class animal, his pedigree undoubted.

The committee therefore award to Paoli Lathrop, of South Hadley, Mass., for his short horn Durham bull, the sum of $20.

ERASTUS WILLIAMS.
THOMAS COWLES.

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CLASS II.

COMMITTEE NO. 14.—STALLIONS AND MARES OF ALL WORK.

The Committee on Stallions and Mares of all work, Class 2d, No. 14, having viewed the animals presented, report:—All in this list were seven years of age, and have reached that period when all points and qualities are supposed to have matured.

Perfection in this noble animal is what we are desirous of attaining. Individuals differ in many points and qualities considered essential for the most perfect animal.

With your committee, the horse of all work is considered the most desirable for the farmer. We want a horse fitted for the plow, the carriage, and the road; then we have an animal that will command a fair remunerating price. There is not sufficient care taken by our breeders in obtaining the right crosses, and successful breeding can only occur when this attention is given.

It is certain that the strength of an animal does not depend on bulk. What is known as the blood, or thorough-bred horse, may be considered as one of the most powerful animals. This power consists in the proportions of his body and limbs, his strong loin, large, full muscles, points strong, with full clear hoof, to bear the body with speed and power.

We have awarded to Robbins Battell, of Norfolk, for his stallion, the first premium of $30.

To L. J. Keyes, of Killingly, the second, $20.

To R. T. Carrier, of Colchester, the third, $10.

A valuable family horse, nineteen years of age, was exhibited by Gen. Geer, showing strong constitution, and docility of disposition.

A valuable mare, owned by Judge Munson, of Seymour, was excluded from our list, having lost her foal; but a discretionary premium is recommended, as she was the most powerful animal exhibited in this list.

To E. C. Spencer, of New Hartford, we award the first premium for his brood mare, with foal at foot, $25.

To. H. Olmsted, of East Hartford, the second, $20.

To Austin Whiting and Chester Elmer, of West Hartford, the third premium, each $5.

A Morgan and Messenger mare and colt, owned by John N. King,

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The Committee on Drivers and Horses with pleasure report that they have carefully examined and tried the horses entered for premium, and have found a large collection of fine animals. Mr. Henry Russell's six years old mare, Jenny, was the favorite with the committee and they award her the first premium of $15. Harry, the property of Mr. John A. Hemingway, was next in their favor. They award him the second premium of $10. Mr. Horace Lindsley Brothers, of Meriden, have several fine horses, and of their years old mare, although a small animal, they speak with much praise.

The committee also beg leave to award the same premium to three year olds. Had an extra premium been offered they would recommend a premium of five dollars to each of the following persons: Mr. James S. Lee, Easton, for his Mr. S. V. Hopson, Black Rock, six years old mare. Mr. Wm. A. Stevens, five years old colt of great blood and beauty, from New Haven. Many other horses were noticed from Middletown, of the Morgan blood and superior merit.

The committee are sorry to say that the mares and colts fall short of the style and quality of the horses. Except the colts they are good. Messrs. Lindsley Brothers, of Meriden, show a colt from old Black Hawk, that is second to but few. Your committee award them the first premium on said colt and dam, of $15. They award the second premium of $10, to Mr. A. Bentley, of Goshen, for three years old mare and colt. They award the third premium,

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$10, to Messrs. Hamilton Brothers, West Hartford, for five years old mare and colt.

E. B. BISHOP, New Haven.
BRAINARD MONTAGUE, Middletown.
J. L. PROSSER, Bloomfield.

COMMITTEE NO. 16.—STALLIONS AND MARES OF ALL WORK.

The Committee on Stallions and Mares of all work, three years old, having attended to the duties of their appointment, submit the following report of awards:

Best	Stallion,	3 years old,	James S. Selden, Haddam,	$20
2d	do.	do.	J. H. Miner, North Stonington,	15
3d	do.	do.	U. Clinton, Woodbridge, -	10
Best	Mare,	do.	H. H. Miller, Middletown, -	20
2d	do.	do.	R. Battell, Norfolk, - -	15
3d	do.	do.	F. Woodford, Farmington, -	10

JOHN E. COWLES.
D. M. KNIGHT.
CHAS. MATTHEWSON.

COMMITTEE NO. 17.—STALLIONS AND MARES OF ALL WORK, TWO AND ONE YEARS OLD.

The Committee on Stallions and Mares, of all work, two and one years old, having attended to the duties of their department, respectfully report that they have awarded the following premiums, *viz.:*

Best	Stallion,	2 years old,	Herman Hamblin, Canton, -	$12
2d	do.	do.	E. C. Spencer, New Hartford,	8
Best	Stallion,	1 year old,	Wm. J. Ives, Meriden, - -	8
2d	do.	do.	Newell Miner, Canton, -	6
Best	Mare,	2 years old,	Joseph H. Bennett, New Preston,	12
2d	do.	do.	Orrin Hodge, Burlington, -	8

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[illegible]

[illegible]

HENRY L. [illegible]
[illegible]
[illegible]

COMMITTEE NO. 18—DRAFT STALLIONS AND MARES.

The Committee on Draft Stallions and Mares, having assembled to the duties assigned them, respectfully report:—There was but one stallion exhibited. There were five mares with foal at foot. We regret the competition was not greater. The committee recommend the following awards, viz.:

Best Stallion, Addison O. Mills, Canton,	- - -	$30
Best Mare, with foal at foot, Caleb C. Goodwin, New Hartford,		25
2d do. do. do. O. E. Barnes, West Hartford,		20
3d do. do. do. Erastus A. Pinney, Farmington,		10

All of which is respectfully submitted.

G. S. F. STODDARD.
JARVIS CASE.
WM. BUCKLEY.

COMMITTEE NO. 19.—THOROUGH-BRED STALLIONS AND MARES.

The Committee, Class 2, No. 19, on Thorough-bred Stallions and Mares, in the discharge of their duty, report:—That the several entries made under the classification assigned them were examined, and they have awarded the

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First premium to Zenith, owned by Mr. Wm. A. Stevens, of New Haven, - - - - - $30

Second premium to Selim, owned by Mr. G. S. F. Stoddard, of Woodstock, - - - - - 20

The pedigrees of these animals were minute, and so far as the committee are capable of judging, met the requirements of the Society.

Young Morgan, owned by E. Coe, Esq., of Middletown, showed a valuable pedigree, and fully established his claim to the first premium awarded him last year by the committee as a stallion for all work; and the committee feel that he is entitled to special consideration by those who desire to breed fine animals; but having received the first premium last year, under a different classification, they have declined awarding him a premium at this time.

Black Maria, owned by Mr. Herman Hamblin, supposed to be twenty years old, is deemed by the committee a superior animal, and the two years old stallion, a colt of hers by her side, is an animal of rare excellence; but Mr. Hamblin, not being able to show the pedigree of the mare, the committee having no discretionary power under the rule of the Society, were obliged to assign her a different classification, and by their recommendation, she was assigned to Class No. 23.

All of which is respectfully submitted.

R. M. ABBE.
B. W. TOMPKINS. } *Committee.*
C. B. SMITH.

COMMITTEE NO. 20.—MATCHED HORSES FOR THE CARRIAGE AND ROAD.

The whole number of entries in the class of Matched Horses for the Carriage and Road, was fifty-two. From this number, twenty-two pairs were presented to the committee for inspection. While a large proportion of these are deserving of all praise, yet many of them did not, in the opinion of your committee, come within the limits prescribed to them. It seems desirable that this class of horses should be more closely defined and reduced to a narrower compass. Your committee would therefore respectfully suggest the propriety

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of putting into a class by themselves, those pairs of matched horses that stand *under fifteen hands high.*

With an earnest desire to balance with an even hand the many and various excellencies of the pairs presented, your committee have decided upon the following awards:

1st premium,	Clapp & Sharp, Hartford,	- - -	$25
2d do.	George Welton, Waterbury,	- -	15
3d do.	H. C. Griswold, Ellington,	- - -	10

JAMES F. LEWIS,
R. T. PRESCOTT,
DANIEL F. GULLIVER, } *Committee.*

COMMITTEE NO. 21.—MATCHED DRAUGHT HORSES.

The Committee on Matched Draught Horses, report the following awards, *viz.:*

1st premium,	Bill & Co., Hartford,	- - -	$25
2d do.	A. Watkinson, do.	- - -	15
3d do.	George Hart, New Britain,	- -	10
Discretionary,	Meriden Lumber and Coal Co., Meriden,		10

All of which is respectfully submitted.

GEORGE C. HITCHCOCK.
F. D. JOHNSON.
LEVI PROSSER.

COMMITTEE NO. 22.—MATCHED TROTTING HORSES.

The Committee on Matched Trotting Horses, report the following awards:

1st premium,	B. Montague, Middletown,	- - -	$25
2d do.	Jarvis Joslyn, New Haven,	- -	15
3d do.	A. E. Rice, Waterbury,	- - -	10

All of which is respectfully submitted.

CHARLES R. ALSOP.
ELIAS BALDWIN.
B. W. TOMPKINS.

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COMMITTEE NO. 23.—GELDINGS OR MARES FOR FAMILY HORSES.

The Committee on Family Horses, over four and under twenty years old, beg leave to report:—That a large number of good horses have been under their inspection, between whose merits it was no easy matter to decide. After such examination as we have been able to make under circumstances most unfavorable, we have concluded to award the following premiums:

To Mr. J. Wilcox, 2d, of Meriden, for a black Gelding, 5 years, $20
Mr. Stephen Atwood, of Watertown, for a Morgan Mare, 7 years, - - - - - - 15
Mr. Lyman Stockbridge, of Hartford, for a bay Gelding, 5 years, - - - - - - 10
Mr. J. N. Blakeslee, of Watertown, for a bay Mare, 5 years, 5

We also recommend that discretionary premiums be given as follows:

To Mr. Isaac Knight, of Canterbury, for a sorrel Horse, 9 years old, $5
Mr. B. W. Greene, of Hartford, for an iron grey Gelding, 7 years old, - - - - - - 5
Mr. L. H. Frost, of Southington, for a bay Gelding, 8 years old, 5

We should have been most happy to award many other premiums to those whose horses have many good qualities. Among those particularly deserving of notice, are the following:

A bay Gelding, 6 years old, owned by J. B. Terry, of Hartford.
do. do. 7 years old, owned by H. L. Bidwell, of Hartford.
do. do. 6 years old, owned by J. W. Humphrey, of New Britain.
do. do. 6 years old, owned by George Hart, of New Britain.
A 6 years old Horse, owned by C. F. Smith, of Cromwell.
A bay Mare, 6 years old, owned by A. Bentley, of Goshen.
do. do. 9 years old, owned by N. B. Smith, of Woodbury.
A chestnut Gelding, 9 years old, owned by E. S. Morron, of Suffield.
A bay Gelding, 6 years old, owned by H. B. Munson, of Seymour.

All of which is respectfully submitted.

MERIT W. BARNES.
GEORGE A. PAINE.
JOHN S. WHITTLESEY.

Hartford, Oct. 12, 1855.

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COMMITTEE NO. 23. (B.)—GELDINGS OR MARES FOR FAMILY USE.

The Committee on Geldings or Mares for family use, four years old and under, and twenty years old and over, report as follows:

For best Gelding, 4 years old, C. B. House, of Haddam, $20
For 2d best Mare, do. R. Fuller, of Somers, - 15

The committee could not decide between a gelding owned by D. P. Woodruff, of Southington, and one owned by F. Watson, of New Hartford. Both of these were remarkably fine two years old animals, of equal merit in the judgment of the committee. They therefore award a premium of $10, to each of these animals.

Horses of twenty years old and over.

The committee were much pleased with this class of ancient and honorable steeds, for their proud and high-spirited bearing. In adherence to the rules of the Society, they make the following awards:

To H. Hamlin, of Canton, for Mare, 20 years old, - - $10
To H. Keney, of Hartford, for Mare, 24 years old, - 5

All of which is respectfully submitted.

JOHN M. RIGGS.
C. F. CLEVELAND.
A. L. SMITH.

COMMITTEE NO. 24.—SINGLE TROTTING HORSES, MARE OR GELDING.

The subscribers, Committee on Single Trotting Horses, respectfully report that they have performed the duty assigned them, and in pursuance thereof award the premiums as follows:

Best trotting Horse to harness,				Samuel Root, New Haven,	$20
2d	do.	do.	do.	R. Sherwood, Bridgeport,	15
3d	do.	do.	do.	L. H. Dickinson, Higganum,	10
Discretionary,				James Turner, Bridgeport,	10
Best trotting horse, under saddle,				F. W. Russell, Portland,	20
2d	do.	do.	do.	Solomon Cowles, Farmington,	15

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None others were exhibited, worthy of the third premium, in the opinion of your committee.

All of which is respectfully submitted.

H. B. MUNSON.
M. S. GILBERT.
AUGUSTUS WARD.

COMMITTEE NO. 25.—HORSES FROM WITHOUT THE STATE.

Report of Committee No. 25, on Horses without the State. We award the following premiums:

To Messrs. Strong & Lewis, Northampton, Mass., for best Stallion of all work, - - - - $25
To O. A. Parks, W. Springfield, Mass., for best draught Mare, 25
To L. B. Miller, G. Barrington, Mass., for best trotting Mare, 20
To E. Van Tassell, Egremont, Mass., for best pair of matched Carriage Horses for the road, - - 25
To F. T. Cowles, Long Meadow, Mass., for best family Horse, 20
To M. A. Kellogg, Philadelphia, for best pair matched trotting Horses, - - - - - 25

J. M. Hubbard, N. Y., presented a team of sorrel Horse and bay Mare, which made the best time of any double team.

We recommend a premium of $20, to be given to A. Huxley, New Marlborough, Mass., for his three years old Black Hawk Stallion.

We recommend a premium of $20, to be given H. Sargent, Springfield, Mass., for his splendid pair of matched Fancy Horses. We also recommend complimentary notice of a pair of five years old matched Carriage Horses, owned by R. A. Potts, Mass. The same for a pair owned by L. B. Miller.

Under the head of "Single Horses or Mares for family use or trotting," the committee noticed from the stand several *very superior*, but they could not subsequently find them for particular examination.

SAMUEL COLT, HARTFORD.
W. W. BILLINGS, NEW LONDON.
DE WITT C. PENDLETON, STONINGTON.

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COMMITTEE NO. 26.—JACKS AND MULES.

There were three pairs of Mules on exhibition; one pair owned by John T. Norton, of Farmington, and two pairs by Messrs. E. B. Bishop & Son, of New Haven. The pair which commanded the first premium, of $15, were owned by Messrs. Bishop & Son. They were three years old, about sixteen hands high, and remarkably well formed.

The second premium of $10, was awarded to the other pair owned by the Messrs. Bishop. These were full fifteen hands high, and four and five years old. Though this pair were below the pair exhibited by Mr. Norton in height, by about four inches, yet the committee were all of the opinion that on account of superior compactness of form this pair were entitled to the premium.

The committee think that the size and form of this pair of mules, is near perfection for ordinary work, though greater height when combined with compactness and symmetry of form, would increase their value in the market.

The pair exhibited by Mr. Norton are very spirited and valuable and make an excellent team, but are too tall for their weight, to compete successfully in the market with either pair of the others.

As in the horse, so in the mule, it is not best to sacrifice weight to height, though the tall "leggy" mule is far superior to the tall horse, and bears comparison with the more compact mule much better than the tall horse with the stocky one.

The question has been asked, whether the mule can be used to advantage by the farmers of New England?

In New Jersey and all States south of it, the question has long since been decided in favor of the mule.

The mule is far superior to the horse on the farm, in all places where draft is required, being able to do the same amount of work on two-thirds the quantity of food required by the horse; is much less liable to accidents, and when injured, is almost sure to recover by proper treatment and rest, generally by rest alone. The mule is much longer lived than the horse. It is safe to calculate that mules do not need replacing, on account of age, more than one-half as often as the horse.

The mule is able to work at three years of age, and at four years will work beside the mature horse, and will generally improve and "fill out," till the age of eight years; so that we may safely say, that

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the mule is better adapted to the farm than the horse. But whether the mule would be better for the farmer of this northern climate than oxen, is another question.

In the Middle and Southern States, the ground is in condition for plowing from nine to twelve months, according to the degree of latitude; while in New England, plowing can be done only during some six to eight months. In the former States, the intervening months, if any, are occupied in carrying produce to market, hauling marl, muck, lime, wood, &c.; while in the latter States, in the majority of cases, the team has but little to do during half the time the ground is frozen; and the general practice of our northern farmers has been to work oxen of their own raising, breaking them in at an early age, and turning them off at five and six years of age. Thus the team is improving by growth nearly or quite enough to pay the expense of keeping it; and where there is not plenty of winter work to do, we are of the opinion that the present plan is the best, especially as the improvement of our stock of working oxen is going forward so rapidly. But in all cases where steady work is required, the mule above all animals should be obtained.

After recommending mules so highly, your committee feel bound to make a few suggestions in regard to the selection of mules, and the treatment which they require.

In purchasing a pair of mules, be sure they are even-tempered and spirited. If one is much quicker than the other, they will never work well, as a lazy, stupid mule is almost worthless; entirely so, beside a spirited one. See that they have an intelligent, pleasant expression of countenance, (for all animals have a decided expression of some kind in their countenance.) Notice whether they walk well and whether they have any tricks. When the team is purchased, procure a careful, kind and patient driver, and see that he never loses his temper while handling them. Few animals appreciate kind treatment more than mules, and the temper of no animal is sooner injured and soured by rough, unkind usage, than that of a mule. Once obtain his confidence and he will never forget you.

The mule has been called stubborn, willful and malicious. It should be said, that savage, malicious and cruel treatment will make the mule stubborn and treacherous.

In behalf of the committee.

DAVID LYMAN, *Chairman.*

Middlefield, January 3, 1856.

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CLASS III.

COMMITTEE NO. 27.—LONG-WOOLED SHEEP.

The Committee on Long-wooled Sheep were gratified to see the largest and best exhibition of this class of animals ever made in the State. The committee believe there are no sheep more profitable to the farmers of New England, than the best mutton sheep. Several of the animals shown were almost all that could be desired in beauty and size. They were of the variety recently introduced into New England, called New Oxfordshire, and most of them originated in the flock of John T. Andrew, Esq., of West Cornwall. Hector, from the above flock, is a sheep of extraordinary merit, of fine form, two years old, and weighs nearly three hundred pounds. The sheep shown by George Hitchcock, Esq., of N. Preston, were beautiful animals and in fine condition. Ralph Cowles, Esq., also showed several fine specimens from the same stock. General Taylor, a fine buck, showed by Charles Tracy, of Norwich, is of the largest size and great symmetry of form. His parents were imported from the flock of the Duke of Buccleugh. He would have deserved a premium, but was excluded from competition, from having taken last year, when but a year old, the highest prize, in competition with sheep of all ages. Mr. Tracy also showed five New Oxfordshire ewes, of great merit, three of them being of the best on exhibition; but the others having late lambs, were not in condition to show to advantage.

The committee award the premiums as follows:

Best	Buck,	John T. Andrew, West Cornwall, "Hector,"	$10
2d	do.	George C. Hitchcock, New Preston, - -	8
3d	do.	Ralph Cowles, Farmington, - - -	5
Best 5	Ewes,	W. L. & Ralph Cowles, Farmington, - -	10
2d	do.	George C. Hitchcock, New Preston, -	8
3d	do.	T. L. Hart, West Cornwall, - - -	5
Best 5	Lambs,	George C. Hitchcock, New Preston, -	8
2d	do.	John T. Andrew, West Cornwall, - -	5

Discretionary of $4, is awarded to the five ewes shown by Charles Tracy, Norwich.

GEORGE COFFING.
CHARLES MATTHEWSON.
CHARLES B. SMITH.

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COMMITTEE NO. 28.—MIDDLE-WOOLED SHEEP.

Report of the Committee on Middle-wooled Sheep:—The rapid increase of population has driven away the large flocks of fine-wooled sheep from the Eastern States, and created a demand for the large mutton varieties. There are few articles in which our markets are so deficient, as in good mutton. Many persons have never seen it, and comparatively few are aware that it is one of the most wholesome and delicious articles of food. The few who know its value are willing to purchase it at extravagant prices. The best sells higher in proportion to cost than any other meat. One hundred dollars have been repeatedly paid, and are now offered, for carcasses weighing two hundred pounds; while fifty dollars is not an uncommon price for those approaching this weight. It is to many farmers a secret, that good mutton can be made cheaper, and sold higher, than either beef or pork. For these reasons the committee are pleased to see at the fairs increased attention to the breeding of good mutton sheep. The best varieties of this class are the New Oxfordshire, the Cotswold, Leicester and South Down, the latter of which alone came under the examination of this committee.

The South Down, although it does not attain the size of the large long-wooled sheep, and does not gain as rapidly on a given quantity of food, as the New Oxfordshire or Cotswold, is one of the best varieties.

It is of a medium size, excellent constitution, unequaled form, and is a good breeder. In England the mutton is thought to be better than that of the larger sheep; but in this country, either from a difference in climate, or soil, or the want of a just appreciation, that superiority is not recognized; the largest carcass, with the most fat, usually selling here for the highest price by the pound, without regard to the breed. The South Down is one of the most distinct varieties, breeding with great uniformity, and in its crosses retaining its own characteristics with great tenacity. It is among the most beautiful sheep, belongs undoubtedly to the aristocracy of sheepdom, and is among sheep, what the small but beautiful Devon is among cattle.

There are but few pure South Downs in our State, and many of those shown at our Fair, had little claim to notice, and still less to the name of South Down, as they had but little of that blood.

George H. Chadwick showed good specimens, and T. S. Gold, of

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West Cornwall, showed those of pure blood, having the full characteristics of this fine variety.

George C. Hitchcock exhibited two imported ewes, of unequal merit, one of them being an almost perfect gem of a sheep, and the finest of the Show.

The committee earnestly hope, that at the next exhibition of the Society, the competition in this class may be greatly increased.

The committee have awarded the following prizes:

Best Buck,	T. S. Gold, West Cornwall,	- - -	$10
2d do.	George H. Chadwick, South Lyme,	-	8
3d do.	T. S. Cold, West Cornwall,	- - -	5
2d best Ewes,	do. do.	- - -	8
Best Lambs,	do. do.	- - -	8
2d do.	do. do.	- - -	5

To T. L. Hart, of West Cornwall, for Sheep and Lambs, a discretionary premium of - - - 5

To G. H. Chadwick, of South Lyme, for Sheep, - - 5

JOHN T. ANDREW.
EDWARD NORTON.
STANLEY WHITE.

COMMITTEE NO. 29.—MERINO SHEEP.

The Committee on Merino Sheep ask leave to report:—That the number of sheep of the above breed on exhibition, was small; three Bucks, three pens of five Ewes each, and the same number of Lambs, comprising the whole. Your committee found it somewhat difficult to determine how the awards should be made, the ewes being all uncommonly good, having thick and uniform fleeces and being otherwise well matched. One of the bucks presented an appearance suggestive of the smearing process practised in some parts of the country, the wool being very oily and the outer ends covered with a hard, gummy substance, rendering it extremely difficult of manufacture.

Your committee have awarded the premiums as follows:

Best Buck,	Stephen Atwood, Watertown,	- -	$8
2 do.	L. & A. Whiting, Torrington,	-	5
Best 5 Ewes,	do. do.	do. - -	10
2d do.	Stephen Atwood, Watertown,		8

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3d best 5 Ewes, Joseph Blakeslee, Watertown, - -	$5
Best 5 Lambs, L. & A. Whiting, Torrington, - -	8
2d do. do. do. do. - -	5

All of which is respectfully submitted.

NORMAN KELLOGG.
JNO. WHITMAN.
C. JUDD.

COMMITTEE NO. 30.—SAXONS AND GRADES.

The Committee on Saxon and Grade Sheep, have attended to the duties of their appointment, and respectfully report the following awards of premiums:

Best Saxon Buck, John Whitman, West Hartford, -	$8
2d do. do. S. Griswold, Torringford, - -	5
Best 5 do. Ewes, S. Griswold, do. - -	8
2d do. do. J. N. Blakeslee, Watertown, -	5
Best 5 do. Lambs, S. Griswold, Torringford, - -	5
Best 5 Grade Ewes, Chester Francis, West Hartford, -	10
2d do. do. N. Hart, Jr., West Cornwall, - -	8
Best 5 Grade Lambs, do. do. -	8

WILLIAM LYMAN.
GEORGE TUTTLE.
CHARLES HUBBARD.

COMMITTEE NO. 31.—FAT SHEEP.

The Committee on Fat Sheep, offer the following report of awards of premiums, *viz.:*

Best Long wool Fat Sheep, John T. Andrew, W. Cornwall,	$10
2d do. do. George C. Hitchcock, N. Preston,	5
3d do. do. John T. Andrew, W. Cornwall,	3
Best Middle do. South Down, T. S. Gold, do.	10
2d do. do. do. do. do.	5

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Best Grade Fat Sheep, T. L. Hart, West Cornwall, $10
2d do. do. John T. Andrew, do. 5
3d do. do. do. do. do. 3

All of which is respectfully submitted.

NATHAN HART.
JOSEPH GILBERT.
B. W. COE.

COMMITTEE NO. 32.—IMPORTED SHEEP, AND SHEEP FROM OTHER STATES.

The Committee on Imported Sheep and Sheep from other States, respectfully report the following awards:

Best Buck from without the State, S. Hammond, North East, New York, - - - - $10
Best South Down Buck, do. do. do do. 10
Best Imported Ewe, G. C. Hitchcock, N. Preston, - - 10

All of which is respectfully submitted.

NORMAN PORTER.
A. DARROW.
C. B. SMITH.

COMMITTEE NO. 33.—SUFFOLKS.

The Committee on Suffolk Swine, have awarded the following premiums:

Best Boar, 1 year and over, W. E. Gates, Hartford, - $10
2d do. do. do. Jedediah Deming & Son, Newington, 8
3d do. do. do. Charles Tracy, Norwich, - 5
Best Sow, 1 do. do. S. A. Bunnell, Seymour, 10
2d do. do. do. T. A. Holladay, Hartford, - 8
Best Sow and Pigs, not over ten weeks old, W. E. Gates, Hartford, 12

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The committee award the following discretionary premiums. To a very fine litter of Pigs over ten weeks old, $10, to Henry Olmsted, of East Hartford; one of $8, to John E. Cowles, of Farmington.

All of which is respectfully submitted.

F. H. NORTH.
T. L. HART.
T. G. NORTH.

COMMITTEE NO. 34.—OTHER BREEDS.

The Committee on Swine, having in charge breeds other than Suffolk, have examined the animals entered for premium, and would say that the exhibition is highly creditable to the exhibitors, and does honor to the Fair of this or any other State, and tends to show that the pork-growing interest is not and is not likely to be neglected for the future. This is evident from the success which is apparent in crossing the native with Suffolk and other larger breeds. Your committee report that there was but one entry of Boars. This was a very fine animal, belonging to Ralph R. Phelps, of Manchester; to him we award the first premium of - - - $10

Best Native Sow, Solomon Porter, Hartford, - - 10

2d do. do. Hamilton Brothers, West Hartford, - 8

3d do. do. A. W. Allen, Bloomfield, - - 5

Best Sow and Pigs not over ten weeks old, E. R. Pitkin, South Windsor, 12

2d do. Litchfield Sow and Pigs, do. do. Thomas H. Holaday, Hartford, 10

3d do. do. do. J. Bidwell, Bloomfield, 5

The committee recommend a gratuity of $3, to Sanford Grant, of East Windsor, for a Sow and Pigs.

All of which is respectfully submitted.

JOHN PAYNE.
W. H. PUTNAM.
GEORGE TUTTLE.

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COMMITTEE NO. 35.—POULTRY.

The Committee on Poultry, report the following awards:

For best trio White Dorkings, R. R. Bunnell, Branford,	$2
do. do. Black Spanish, Enos Bassett, Hamden, -	2
2d do. do. Charles L. Ayer, West Killingly,	1
Best trio Game, W. L. Wilson, East Hartford, - -	2
2d do. do. F. W. Russell, Portland, - -	1
Best do. Jersey Blue, E. Bassett, Hamden, - -	2
Best do. Buff Shanghai, F. W. Russell, Portland, -	2
2d do. do. E. Bassett, Hamden, - -	1
est do. Bolton Grey, L. J. North, New Britain, -	2
2d do. do. F. W. Russell, Portland, - -	1
Best do. Dominique, W. L. Wilson, East Hartford, -	2
Best do. African Bantams, W. F. Parker, Meriden, -	1
do. do. W. L. Wilson, East Hartford,	1
Best do. Bantams, H. Atkins, Hartford, - - -	2
Best do. Native Fowls, James Brown, Bloomfield, -	2
Best do. Turkies, Chester Griswold, West Hartford, -	3
2d do. do. A. & T. Jerome, Bloomfield, -	2
Best Muscovy Ducks, Solomon Porter, Hartford, - -	2
Best Common do. A. & T. Jerome, Bloomfield, -	2
Best Aylesbury do. W. L. Wilson, East Hartford, -	2
2d do. do. A. H. Byington, Norwalk, -	1
Best Bremen Geese, A. S. Griswold, West Hartford, -	2
Best Guinea Fowls, L. J. North, New Britain, -	2
Best Variety of Poultry, E. Bassett, Hamden, - -	10
2d do. do. C. H. Owen, Hartford, -	5
Best Variety of Pigeons, E. Bassett, Hamden, - -	2
Best Fancy Rabbits, J. Ramsey, Jr., Hartford, -	3
2d do. do. H. S. Ward, do. - - -	2

H. T. May, exhibited fine specimens of Deer, worthy of notice.

A. H. Byington, of Norwalk, entered thirty varieties of Poultry, but none were found by the committee on the ground. This was the largest variety entered on the books.

JOHN G. NORTH.
FRANCIS COWLES.
JOHN T. ANDREW.

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CLASS IV.

COMMITTEE NO. 36.—PLOWING.

The Committee on Plowing present the following report:—The number of competitors in the plowing match was twenty in the whole, five boys and fifteen men. There were five Michigan plows, and two plows other than Michigan.

The plowing generally was exceedingly creditable, especially when the character of the soil and the unevenness of the surface of the land plowed is taken into consideration.

The superiority of the work done by the Michigan plow was very apparent, and the committee can not but believe that it is only necessary for farmers to try this plow, to be convinced of its superior excellence compared with any other plow within their knowledge now in use. The great excellence of the Michigan plow consists in pulverizing the soil most thoroughly, and leaving the surface even.

The committee award the first premium of $15, on Michigan plows, to T. Jerome, of Bloomfield, who plowed piece No. 6.

The second premium of $10, to Horace Hart, of New Britain, who plowed piece No. 1.

The third premium of $8, to G. Meacham, of Bloomfield, who plowed piece No. 8.

On the plows other than Michigan, the committee award the first premium of $15, to A. Hamilton, of West Hartford, who plowed piece No. 5.

The second, of $12, to A. Jerome, of Bloomfield, who plowed piece No. 3.

The third, of $10, to Edward Deming, of Farmington, who plowed piece No. 4, with a horse team.

The fourth, of $8, to Deming & Cowles, of Farmington, who plowed piece No. 7.

The fifth, of $3, to Jno. Croghan, of Hartford, Silas Hart, plowman, who plowed piece No. 9.

In the work of the boys, the committee were greatly interested, and they are happy to say that they were highly gratified with the manner of its execution.

The committee believe that boys who enter into a competition so manly and honorable, are destined to excel; and they trust that

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another year will add to this list greatly increased numbers of competitors.

The committee award to S. N. Gregory, of Bloomfield, who plowed piece No. 17, the first premium of $10.

To Horace B. Hart, of West Cornwall, who plowed piece No. 16, the second premium of $8.

To Charles Hull, of Farmington, who plowed piece No. 18, the third premium of $5.

To Charles Boardman, of Hartford, who plowed piece No. 19, the fourth premium of $3.

In consideration of the fact that A. E. Todd, of New Britain, who plowed piece No. 15, both held his plow, and drove his team, and performed his work with good judgment, and without the aid of suggestions of those older and more experienced who drove for the other boys, the committee feel it just and proper, by way of commending such independence and self-reliance, to recommend that a discretionary premium of $3, should be granted him.

All of which is respectfully submitted.

S. H. HUNTINGTON.
C. H. POND.
N. B. SMITH.

COMMITTEE NO. 37.—FARM IMPLEMENTS. A.

Committee on Farm Implements, A., report as follows:—It is evident the first requisite for the cultivation of the earth is labor, and the next suitable tools and implements to render labor effectual. It was long since truly observed, that "Much increase was by the strength of the ox," and to bring to all the departments of husbandry so far as practicable, the aid of water, steam, and team power, your committee deem a matter of the first importance.

It is interesting to observe by what a slow progress in improvement agricultural implements, which have been in use for ages, have been brought to their present *excellence*, we will not say perfection. Doubtless at all times there have been those who considered the undiscovered as the impossible, and who were disbelievers in further progress. It would, in the opinion of your committee, be as unreasonable to regard the limit of improvement reached at the present as

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in former times, and we confidently look forward to new discoveries tending greatly to increase the products and lessen the toils of the laborer, and thus to cause the valleys and hills and the herds of their occupants to rejoice on every side. Your committee have found that in their department no specimens were presented of a number of articles for which liberal premiums were offered; while as respects other articles the specimens were so numerous and so excellent, that they recommend more than a single premium.

This latter remark applies particularly to hay and stalk cutters. As respects the important article, mowing machines, it must be difficult for your committee to decide on the merits of the few machines presented for their examination, without an actual trial in a field of grass, not to be found at this season; and your committee have been in doubt as respects the merits of Manny's and R. L. Allen's machine, and they consider all the mowing machines presented well adapted to the purpose designed. After a careful examination, your committee recommend the award of premiums as follows:

To Clinton & Stiles, North Haven, for best Harrow, -	$3
E. C. Fairchild, S. Deerfield, Mass., for best Seed Planter,	5
John Linsley, of Ansonia, for broad-cast Seed Sower, -	5
D. Clinton & Son, North Haven, Fanning Mill, -	5
Clinton, Stiles & Co., do. Power Straw Cutter, -	5
Nourse & Co., Boston, Straw Cutter, - -	3
D. Clinton & Son, North Haven, Straw Cutter, - -	3
Jason Sage, Hartford, Stalk Cutter, - - -	5
Edward Gaines, Barkhamsted, Stalk Cutter, - -	3
H. Baldwin, Washington, Clover Machine, - -	5
Gilbert & Bronson, Hartford, best Mowing Machine, Manny's,	25
J. S. Ross, Chaplin, best Horse Rake, - -	5
R. H. Phelps, Windsor, do. - - -	3
F. Deming, Farmington, Ox Yoke, - - -	3
D. W. Shares, Hamden, Horse Hoe, - - -	5
Ruggles, Nourse, Mason & Co., Boston, Horse Hoe,	5
do. do. do. do. Vegetable Cutter, -	5
do. do. do. do. Corn Sheller, -	5

All of which is respectfully submitted.

ISAAC BACKUS.
JOHN S. YEOMANS.
EDWIN AMES.

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To Backus & Barstow, Norwich, for Road Scraper, - $5

JOHN S. YEOMANS.
EDWIN AMES.

COMMITTEE NO. 38.—FARM IMPLEMENTS. B.

Committee on Farm Implements, B, respectfully report the following awards:

To Cyrus Davenport, South Woodstock, best Grain Cradle, $3
do. do. do. best Hand Rakes, 2
To Ruggles, Nourse, Mason & Co., Boston, best Cheese Press, 5
O. R. Fyler, Winchester, best Churn, - - - 5
D. Clinton & Son, N. Haven, Discretionary, Churn, Diploma.
Ames Shovel Co., Bristol, best Spades, - - $3
do. do. do. best Shovels, - - - 3
G. W. Fuller, Hartford, best Gentleman's Saddle, - 3
J. S. & N. C. Wilder, Hartford, Discretionary, Bridle and Saddle Trimmings, - - - 3
Atwater & Bassett, New Haven, best set Double Harness, 5

All of which is respectfully submitted.

SOLOMON MEAD.
G. M. IVES.
GEORGE K. LOGAN.

COMMITTEE NO. 39.—AGRICULTURAL AND HORTICULTURAL IMPLEMENTS.

The Committee on Collections of Agricultural Implements, &c., having attended to the duties of their appointment, beg leave to report:—In the opinion of your committee, the collection of agricultural and horticultural implements is not sufficiently numerous to warrant them in giving the highest premium.

They would therefore award to J. W. Royce, of Hartford, for the most numerous collection of Agricultural Implements manufactured out of Connecticut, - - - $10

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To J. W. Royce, for the best and most numerous collection of Plows, - - - - - - - Diploma.
To Clinton, Stiles & Co., for the best and most numerous collection of Agricultural Implements manufactured in Connecticut, - - - - - - - $20
To R. M. Abbe, of Enfield, for Patent Pig Pen, - - 3
Backus & Barstow, of Norwich, for Cast Iron Hog Trough, 1
A. Martin, of Norwich, for Patent Wine Press, - 5
George Fowler, of Northford, for Double Acting Pump, 3
do. do. Single do. 1

In conclusion, your Committee would say, that there were a number of articles on their list not to be found on the ground.

All of which is respectfully submitted.

W. B. AMES.
J. S. JEWETT.
J. HUBBARD.

COMMITTEE NO. 40.—TOOLS, MACHINERY, &c.

The Committee on Tinner's Tools, Machinery, &c., have attended to the duties assigned them, and report as follows:

To Royce, Wilcox & Co., East Berlin, for best Tinner's Tools and Machines, - - - - $10
S. Stow, Manufacturing Co., Southington, 2d do. do. 5
H. Griswold & Co., Hartford, Sewing Machine, Diploma.
A. W. Roberts & Co., do. Fire Engines, - $3
Fuller & Day, do. Double Acting Force Pump, 2
Philip Ripley, do. Iron and Steel, - 3
Samuel Coit, do. Roller Cot Machine, Diploma.
E. G. Hastings, do. Stone Dressing, - $3
J. Giles, do. Printing Press, - 2
Jepson, Rawling & Co., New Haven, Recut Files, - 2

All of which is respectfully submitted.

A. D. LOCKWOOD.
W. B. KNIGHT.
W. B. AMES.

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CLASS V.

COMMITTEE NO. 41.—BUTTER.

The Judges on Butter beg leave to report:—There were submitted for their inspection, fifty-eight samples of twenty pounds or more each. Thirteen of the number were made in June, and forty-five were Fall made. Some very fine parcels had no written statement of the mode of making, and could not therefore be examined with reference to awarding a premium. It is earnestly requested that in all future exhibitions, those who make and send in their butter, will not omit to comply with this necessary regulation of the Society. The June butter was much better than that which was exhibited last year. Still the judges felt that none of it was worthy of the highest premium, and they awarded only the three lowest premiums, as follows, *viz.:*

Benjamin W. Coe, Middletown, - - - -	$10
T. L. Hart, West Cornwall, - - - -	8
Hilamon Fyler, Winchester, - - - -	5

There is evidently room for improvement in keeping early made butter.

Of the late made butter, the parcels were all good and many were very excellent, good enough to satisfy the most delicate taste. There were decided marks of neatness, and skill in the workmanship, which are highly commendable to the housewives of Connecticut. The committee are free to say, that such was the excellence of many parcels that it was difficult to select four only for premium, and yet they were authorized to give only that number. After careful examination, they agreed unanimously to award the premiums as follows, *viz.:*

1st	premium,	Jeremiah Hubbard, South Killingly, - -	$15
2d	do.	E. A. Phelps, Avon, - - -	10
3d	do.	W. E. Cowles, Canton, - - -	8
4th	do.	D. W. Grant, Bloomfield, - -	5

Of the samples presented, twenty-nine, or more than one-half, were from Hartford County; nineteen from Litchfield County; six from New Haven; two from Windham; one each from New London and Middlesex, and none from Fairfield or Tolland Counties. It is hoped that every county will have its samples for competition another year, and that those who have not received a premium this

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year, will not fail to try again, and that others too will enter the lists as competitors, and if any improvement can yet be made over the best which was presented, let the butter-makers of Connecticut attain the highest excellence and go on to perfection.

All of which is respectfully submitted.

A. SAVAGE.
W. B. AMES.
W. M. COE.

MIDDLETOWN, Oct. 8, 1855.

To the Committee on Dairy of the State Agricultural Society:

The butter that I offer for a premium was made in the month of June.

I kept three cows, strained the milk in pans, filling them about two-thirds full; churned three times a week, about seven pounds to the churning.

Immediately after the cream was churned, the butter was washed thoroughly and salted. The following morning worked and packed, keeping it covered with strong brine made of salt. Kept the cream and butter in a cool cellar.

BENJAMIN W. COE.

The June butter offered by me was made the last of the month. Was made in the ordinary way, worked three times, packed in a stone jar, covered with brine and kept in the cellar.

T. S. HART.

WEST CORNWALL.

Hilamon Fyler's Butter.

The undersigned, in offering his butter for premium, would say that he has no secrets to communicate; cleanliness, attention to the state and temperature of the cream, and the working out and washing out all the buttermilk, and the salting without the touch of human hands, using for the work, O. R. Fyler's butter-working churn.

We never permit our cream to become very old before churning, keeping it and churning it at about sixty degrees of temperature; churning it slowly, and after draining off the buttermilk, breaking it up and washing it carefully in the said butter-working churn; always after washing, working in the salt, about one ounce to the pound, in the churn, being particularly careful in working the butter slowly, to

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prevent its becoming oily; and as you will see, it is afterward, for convenience, pressed into blocks.

HILAMON FYLER.

WINCHESTER, Oct. 9, 1855.

My method of making butter is as follows:—Immediately after the milk is drawn from the cows, it is strained into clean, sweet pans, and is allowed to stand in a cool place, from thirty-six to forty-eight hours; the cream is then taken off, put into a cold place, stirring it often until churned; it is then salted, using about one ounce of salt to the pound; after standing twenty-four hours, the butter is worked again the second and third time, until perfectly free from buttermilk.

E. A. PHELPS.

Twenty pounds of Fall Butter.

Cows' feed was grass. Milk set until the cream was ripe; churned in the usual way; worked out of the churn by hand; salted with one ounce of salt to each pound of butter; worked again the next day with a butter-worker, and finished getting out the buttermilk by working upon a napkin.

W. E. COWLES, *Canton.*

BLOOMFIELD, Oct. 8, 1855.

To the Dairy Committee of the State Agricultural Society:

The butter that I offer for your inspection, was made within the last five days, and for my particular management I will refer the committee to the published transactions of the State Society for 1854, pp. 60 and 172, and would say that I continue to pursue the same course, with one alteration. Last year I entertained the opinion with most butter makers, that water ought not to come in contact with butter. The fore part of this summer I tried the experiment to my own satisfaction as follows: One churning of butter was equally divided by weighing; one-half was worked thoroughly in my butter-worker, and the other half worked with a wooden spatter through four or five cold waters. The salt was weighed and an equal quantity put in each half; the butter was worked equally alike afterward, and the two samples were shown to a number of different individuals, whom I considered good judges, and they all agreed that the butter that was washed was the best, and since that time I have continued that practice. After the butter is washed, I work the water all out before

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salting; and here I wish to say that the quantity of salt that I use may seem small to most butter makers, (1 lb. of salt to 20 lbs. of butter,) but it is not salted till after the buttermilk and water are both out of the butter. If the salt is put into the butter before the buttermilk is extracted, a considerable portion of its strength will work out with the milk.

Yours, respectfully,

D. W. GRANT.

COMMITTEE NO. 42.—CHEESE.

The Committee on Cheese report the following awards:

Best	50 lbs. old	Cheese,	Harley Morse, Litchfield, - -	$10
2d	do.	do.	Hilamon Fyler, Winchester,	8
3d	do.	do.	Charles Osgood, Pomfret, -	5
Best	100 lbs. New	Cheese,	divided between Charles Osgood, of Pomfret, and W. H. Putnam, of Brooklyn,	15
2d	do.	do.	divided between Dudley Chase, of Winchester, and Lucius Tucker, of Pomfret,	10
3d	do.	do.	T. L. Hart, West Cornwall, -	8
4th	do.	do.	Harley Morse, Litchfield, -	5
50 lbs. Pine-Apple Cheese, Phineas North, Torrington, -				5
Old Cheese, Orrin Fuller, Winchester, - -				3

All of which is respectfully submitted.

CHARLES E. FOX.
OLIVER PARISH.
GEORGE SEYMES.

Old Cheese and New, as made by Harley Morse, of Litchfield.

The milk is set in tin pans at night; the cream is taken off in the morning; the milk is then heated to the right temperature over a fire. The morning's milk is strained into a tub with the night's, and as much rennet added as will turn it to a curd. The morning's milk is suffered to stand sufficiently long to have the animal heat escape before the rennet is added, using about half an ounce of salt to every pound of cheese. After the cheese is taken from the press, it is removed to a cool upper room.

It was one year old in September last.

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The process for making new cheese is the same as for the lot of old cheese.

As soon as the milk is strained in the tub at night, rennet enough is added to bring it in about three-quarters of an hour. The curd when formed is broken with a long knife, and allowed to stand until morning. The morning's milk is set in another tub, and brought to a curd; let it stand about an hour. Warm whey is then added to the night's curd, and both are put together. Let it remain thus a few minutes, cut it up finely, then dip off the whey as it rises. When the curd is made, dip it out carefully into a cheese basket. Let it drain from an hour to an hour and a half, cutting it once in twenty-five or thirty minutes. The curd is then broken fine, warm whey is gradually added, cutting and stirring it constantly, until the curd is separated from the whey; then drain and salt it, allowing about two-fifths of an ounce to a pound of curd. Press twenty-four hours. Turned and rubbed every day, or every other day, as the weather may be.

LUCIUS TUCKER.

The Pine-Apple Cheeses offered for inspection, were made in the month of June. The curd is made twice a day, morning and evening, in the usual way. The evening's curd is warmed the next morning about ten minutes, when the curd of the morning previous is added, and the whole warmed five minutes longer. The whey is then hastily drained or pressed out, the curd ground by a machine, and then salted, three and a half ounces of fine salt to ten pounds of curd. It is then crowded into molds, the pine-apple shape, and pressed about sixteen hours. The cheeses, then being taken from the molds, are incased in nets, and dipped in warm water, thus softening the surface so as to leave the impression. They hang in these nets for about five weeks; then the net being removed, they are placed upon shelves, suitably hollowed for the cheese to rest upon, until sent to market.

Very respectfully yours,

PHINEAS NORTH.

Hilamon Fyler's manner of making Cheese.

1st. The milk should never be set warmer than 98 degrees. Let it then stand three-fourths of an hour, (after the rennet is added,) then break or cut it up fine; let it stand half an hour to settle, then

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dip off the whey, and occasionally cut it into squares, till it becomes somewhat compact; then dip it out of the tub into the cheese sink, cut it in squares and press it till it is quite dry, then it can remain and drain for eight or ten hours; then with a machine of my own invention, it is cut into oblong squares of an eighth of an inch diameter; then scald in whey or water to cause the curd to adhere, and also to extract the remaining whey in the curd. It should be salted to the taste, or one tea-cupfull to the ten lbs. I use the screw press, which is the most convenient and economical. The cheese should be pressed two days; turn twice while pressing. They should remain two weeks before they are capped. The cheese should be turned and oiled every day through the season.

POMFRET, Oct. 9, 1855.

To the Committee on Cheese:

The subjoined is a statement of the manner in which the accompanying lot of cheese was manufactured.

The night's milk is strained into a tub standing under a window, which is left open during the night. In the morning the cream is removed, added to a part of the milk and warmed, and with the morning's milk added to the night's milk. Sufficient rennet is then added to bring the curd in thirty minutes, when it is checked with a cheese knife. It is then permitted to stand until the whey begins to separate from the curd, when it is broken up carefully with a cheese-knife, more or less according to the consistency of the curd. It is then left for a time for the curd to settle, when about one-fourth of the whey is carefully dipped off. It is then removed to the cheese-basket, and thoroughly drained; again placed in the tub and scalded according to the old cheese-maker's rule, which is "until it squeaks," then drained, salted to taste, and pressed forty-eight hours.

CHARLES OSGOOD.

The night's milk is set in a tub, and if the weather is warm a cooler is set in the tub filled with cold water. In the morning the cream is taken off and poured through the strainer with the warm milk; add rennet enough to bring it in half an hour; cut it up; put the strainer over the curd; pour on milk-warm water; let it settle; break it up carefully, dip off the whey that rises, heat it moderately, pour it back, stirring it to equalize the temperature. Repeat this process until the curd is separated from the whey, always remember-

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ing to thoroughly drain and cool the curd before adding the salt, allowing a common tea-cupfull of Liverpool salt to fifteen pounds of cheese, weighed when taken from the press. It is then pressed forty-eight hours, being turned over in the time; then buttered and colored according to fancy and turned every day until cured.

Mrs. WILLIAM H. PUTNAM.

COMMITTEE NO. 43.—HONEY.

The Committee on Honey, &c., respectfully report the following awards:

To Lyman Hotchkiss, Jr., West Hartford, for Apple Blossom Honey, - - - - - -	$3
L. C. Hubbard, Berlin, for White Clover Honey, -	2
Mrs. Eliza L. Smith, Bethany, best Bayberry Tallow,	2
Henry Sanford, do. 2d best do.	1
Lester Woodford, Bloomfield, for Buckwheat Honey, Discretionary Premium of - - -	1
Laura Tyrrell, Bloomfield, same, - - -	1

All of which is respectfully submitted.

T. S. GOLD.
E. NORTON.
C. MATHEWSON.

COMMITTEE NO. 44.—GRAIN AND SEEDS.

The Committee on Grain and Seeds, would recommend the following premiums:

Best	sample	Winter Wheat, J. H. Manning, Ellington, -	$3
	do.	Spring do. Thos. Treadwell, Farmington,	3
	do.	Oats, Hamilton Brothers, West Hartford, -	3
2d	do.	" Wm. Sexton, Simsbury, - -	2
Best	do.	Buckwheat, Wm. Sexton, Simsbury, - -	3
2d	do.	do. Nehemiah Peck, New Britain,	2

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Best	sample	Indian Corn, A. & T. Jerome, Bloomfield, -	$3
2d	do.	do. A. S. Griswold, West Hartford,	2
Best	do.	Timothy Seed, Eli Moore, Southington, -	2
Best	do.	Beans, S. A. Bunnell, Seymour, - -	2
2d	do.	do. Lester Woodford, Bloomfield, - -	1
3d	do.	do. Wm. N. Clark, Farmington, -	.50
Best	do.	Rye, Miles Clark, Hartford, - - -	3
2d	do.	do. Andrew Upson, Southington, -	2
Gratuity, case Garden Seeds, Johnson, Robbins & Co., Wethersfield, - - - - -			1

All of which is respectfully submitted.

CHARLES MATHEWSON.
NATHAN HART.
E. S. MUNSON.

COMMITTEE NO. 45.—VEGETABLES.

The Committee on Vegetables, report the following awards, *viz.:*

Best	Celery,	John Simpson, Hartford, - - -	$2
2d	do.	Henry Plato, do. - - -	1
Best	Cauliflower,	A. Fitch, Bozrah, - - -	2
Best	Turnips,	Horace Williams, East Hartford, -	2
2d	do.	D. W. Grant, Bloomfield, - - -	1
Best	Carrots,	Hamilton Brothers, West Hartford, -	2
2d	do.	Ralph Risley, East Hartford, - -	1
Best	Pumpkins,	W. Bigelow, Hartford, - -	2
2d	do.	Frederick Deming, Farmington, - -	1
Best	Beets,	H. Latimer, Hartford, - - -	2
2d	do.	Asa Fitch, Bozrah, - - - -	1
Best	Parsnips,	J. K. Hall, East Hartford, - -	2
2d	do.	J. C. Sisson, West Hartford, - -	1
Best	Onions,	H. Latimer, Hartford, - - -	2
2d	do.	James Brown, Bloomfield, - - -	1
Best	do.	bunches, James Brown, Bloomfield, -	2
Best	Cabbages,	J. C. Sisson, West Hartford, - -	2
2d	do.	John Simpson, Hartford, - -	1
Best	Tomatoes,	J. C. Sisson, West Hartford, - -	2
2d	do.	J. K. Hall, East Hartford, - -	1

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Best Lima Beans, J. K. Hall, East Hartford, - -	$2
2d do. Ralph Risley, do. - -	1
Best Winter Squashes, W. T. Squire, Hartford, - -	2
2d do. Perry Davis, do. - -	1
Best Table Potatoes, H. Latimer, do. - -	2
2d do. D. W. Grant, Bloomfield, -	1
Best Sweet Corn, J. K. Hall, East Hartford, - -	1
Best assortment Vegetables, Thomas H. Holladay, Hartford,	10
2d do. do. Horace Williams, East Hartford,	8

Discretionary Premiums.

For one-half bushel Carrots, Hamilton Brothers, W. Hartford,	$1
do. do. Parsnips, do. do.	1
do. dozen Winter Squashes, Josiah Capen, Hartford,	1
one bushel Sweet Potatoes, W. Mather, do.	1
one-half dozen Cabbages, Horace Williams, East Hartford,	1
one bushel Beets, D. W. Grant, Bloomfield, - -	1
do Red Onions, S. C. Hubbard, Berlin, -	1
one-half dozen Squashes, Levi Moody, East Hartford, -	1
one-half bushel Potatoes, J. W. Mills, West Hartford,	1
do. Tomatoes, Henry Plato, do. -	1
six Squashes, Mrs. Henry Coe, Middletown, -	1
one basket flat field Turnips, J. E. Frisbie, Hartford, -	1
do. Orange Carrots, do. do.	1
Sweet Mountain Peppers, do. do.	1
one bushel red Onions, J. C. Sisson, West Hartford,	1
one basket Seedling Potatoes, C. H. Wells, East Windsor,	1
do. Potatoes, J. K. Hall, East Hartford, -	1
do. do. R. Risley, do. -	1
one-half bushel Red Onions, Isaac Morse, Litchfield, -	1
one do. Yellow do. H. Latimer, Hartford,	1
six Pumpkins, Morgan Lewis, do. -	1
one bushel Popping Corn, W. H. Yale, Meriden, -	1
twelve heads Celery, A. Fitch, Bozrah, - - -	1

All of which is respectfully submitted.

EDWARD AMES.
WILLIAM MEAD.
G. T. GILBERT.

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COMMITTEE NO. 46.—FLOUR, BREAD, &c.

To the Connecticut State Agricultural Society:

The Committee on Flour, Bread, &c., (No. 46,) report:—That but one barrel of Wheat Flour was offered. This was from the well known Railroad Mills in Hartford. The flour was excellent. The quantity of wheat required for it was 300 pounds.

The committee award to the proprietors, Messrs. Gleason & Willard, of Hartford, the premium of - - $10

For a bag of very nice Buckwheat Flour, from *hulled grain*, to Roswell Moore, of Berlin, a discretionary premium of 1

Bread.

There were exhibited fourteen samples of Wheat Bread, eight of Rye, and four of Brown. The committee awarded to

Mrs. Selah Perkins, East Windsor, for best Wheat Bread, $3
Mrs. Margaret Laughlin, Hartford, 2d do. do. 2
Mrs. D. W. Grant, Bloomfield, 3d do. do. 1
Mrs. Benjamin Selden, West Hartford, for best Rye Bread, 3
Mrs. Isaac Backus, Canterbury, 2d do. do. 2
Mrs. Henry Sanford, Bethany, 3d do. do. 1
Mrs. C. J. Woodworth, Hartford, best Brown Bread, 3
Mrs. Selah Perkins, East Windsor, 2d do. do. 2
Mrs. M. C. Webster, Hartford, 3d do. do. 1

E. J. Bassett, Hartford, exhibited some nice Yeast Cakes, which looked "good enough to eat."

Mrs. S. Perkins' Recipe for Wheat Bread.

"Three pints Flour, one-third of a pint of yeast, a little salt; wet with warm milk."

Mrs. B. Selden's Recipe for Rye Bread.

"Flour sponged with distiller's yeast. When sufficiently light, wet with milk; knead well. When light enough, mold it up, put it in a pan and let it stand half an hour or more before baking."

The bread was generally very good, though a few of the loaves were inferior. The committee beg leave to remark, that they are glad to see an effort made for the encouragement of good bread-making, and trust it will be continued till the best methods are familiar to all. From the time Abraham first set it before his angel visitants,

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down to the present, bread, or something bearing the name, has been more or less the daily food of man; and it would seem as if the principles involved in its manufacture, as well as a knowledge of the constituents necessary to produce a good article, should be well understood by every housekeeper. All admit it to be a necessary article of diet, and if *really good* it is a positive luxury. But in order to deserve this character, it should be palatable, preserving the flavor of the grain from which it is made; should agree with the stomach, even of the invalid; be light and well baked, and *retain its good qualities for some days.* If this definition of *good bread* be correct, few who have eaten at other tables than their own, but will agree with the committee in opinion, that it is by no means so common as to render efforts made for improvement in this direction needless.

With due respect for the fair competitors to whom the first premiums were awarded, the committee would suggest, that had their *recipes* been more full and explicit, they would have given better satisfaction.

D. BARNES.
DAVID LYMAN.
EDSON FESSENDEN. } *Committee.*

CLASS VI.

COMMITTEE NO. 47.—SILK MANUFACTURES.

The Committee on Silk Manufactures, report the following awards:

To M. Hemmingway & Sons, Watertown, for Sewing Silks,		$5
N. & G. C. Rixford, Mansfield Center,	do.	2
Haskell & Hayden, Windsor Locks,	do.	1

The Machine Twist manufactured by N. & G. C. Rixford, Mansfield Center, is worthy of particular notice.

W. L. COLLINS.
DWIGHT R. SMITH.

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COMMITTEE NO. 48.—HOUSEHOLD MANUFACTURES.

The Committee on Household Manufactures respectfully report: That they have endeavored faithfully to do their duty to the State Society, and also to the good wives and fair daughters of our noble old commonwealth; but in consequence of the great crowd in our department, our duty is but imperfectly done. We have, however, done our best; we could do no more. The following list we would respectfully submit for premiums. We will, however, remark with reference to the carpets, that there is a fine display on exhibition of two distinct styles, which bear no comparison with each other, any more than a cassimere and a satinet, and therefore ought not to come into competition. We would therefore recommend, if consistent, to make two classes, and will so report them.

1st	premium,	Rag Carpet, Mrs. H. Stoughton, South Windsor,	$10
2d	do.	do. Miss J. A. Chapman, Bloomfield,	8
3d	do.	do. C. Buckley, Glastenbury, -	5
1st	do.	do. striped, Miss A. E. Hubbard, Bloomfield,	10
2d	do.	do. do. N. F. Miller, Bloomfield, -	8
3d	do.	do. do. Mrs. W. B. Seymour, Hartford,	5
1st	do.	Hearth Rug, Miss L. D. Johnson, do.	3
2d	do.	do. N. F. Miller, Bloomfield,	2
1st	do.	Woolen Blankets, Mrs. A. Norton, Goshen,	5
2d	do.	do. W. Storer, West Hartford,	3
1st	do.	Wool Flannel, Miss A. E. Hubbard, Bloomfield,	5
1st	do.	Quilted Counterpane, Mrs. C. Post, Hebron,	3
2d	do.	do. Miss Parnell Fowler, Hartford,	2
1st	do.	Knit do. Mrs. G. W. Phelps, do.	3
2d	do.	do. do. M. A. Bradley, Waterbury,	2
1st	do.	Comfortable, Ann D. Hall, Middletown,	2
1st	do.	Woolen Yarn Mittens, H. Morse, Litchfield,	2
2d	do.	do. do. Miss L. J. Woodford, Bloomfield,	1
1st	do.	Knit Stockings, Miss R. A. Ely, Bloomfield,	2
2d	do.	do. Miss H. M. Morse, Litchfield,	1
1st	do.	Linen Cloth, Miss R. A. Ely, Bloomfield,	5
2d	do.	do. D. W. Grant, do.	3
1st	do.	Woolen Yarn, Miss R. A. Ely, Bloomfield,	2
2d	do.	do. do. L. J. Woodford, do.	1
1st	do.	Linen Kersey, Mrs. H. Brown, Gilead,	5
2d	do.	do. Sarah J. Minor, Wolcott,	3

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There are many other articles, worthy of notice at least, if not a premium; but if consistent we would recommend a premium for the following articles:

A Quilted Counterpane, W. B. Seymour, Hartford, - $1
do. do. Mrs. W. E. Cowles, Canton, 1
One case Woolen Yarn, Thacher, Goodrich & Stillman, Hartford, 1
One do. do. Welaka Co., Norfolk, very fine, 1
One do. do. Washinee Co., Salisbury, was overlooked, but we consider it fully equal to the others, 1

We might speak of other articles, but time will not permit.

Respectfully submitted,

DAVID GALLUP.
F. J. COE.
RUSSELL CLARK.

COMMITTEE NO. 49.—NEEDLE, SHELL, WAX AND FANCY WORK.

The Committee on Needle, Shell, Wax and Fancy Work, having attended to the duty assigned them, respectfully make the following report:

1st premium, Cheneille Embroidery, A. C. Wells, Hartford, $3
1st do. case Wax Fruit and Flowers, Miss Elizabeth L. Swan, New London, - - - 3
2d do. case Wax Flowers, Miss N. Upson, Southington, 2
3d do. 3 boxes do. Mrs. C. Russell, Haddam, 1
1st do. set Potische Work Imitation Porcelain, Miss Southmayd, Hartford, - - - 2
1st do. Embroidered Sofa Pillow, Mrs. S. P. Newell, Bristol, - - - - 3
1st do. box Shell Work, S. Hargle, Hartford, - 3
1st do. Ottoman Cover, W. W. Roberts, Hartford, 3
One Lace Veil, Miss A. E. Hubbard, Bloomfield, - - 1
Embroidered Chair and Ottomans, H. G. Isham, Hartford, 3
One case Polished Shells, J. S. Bryant, do. - 2
One pair Embroidered Ottomans, E. J. Bassett, do. 2
Gossamer Flower Work, Mrs. Preston, do. - 2
One box Fancy Needle Work, N. F. Miller, Bloomfield, 2

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Lady's Crochet Collar, Mrs. E. Alvord, Avon,	**$1**
Linen Tape do. Miss C. Willard, Hartford,	**1**
Embroidered Skirt, Miss S. Smith, Winsted,	**1**
Silk Bed-quilt, Miss C. T. Benton, Thompsonville,	**2**
Six pairs Silk Stockings, Mrs. L. H. Sigourney, Hartford,	2
One pair do. Mrs. Charles Post, Hebron,	1
Ornamental Hair Work, E. A. Livesey, Manchester,	2
Model Cottage, Miss E. A. Hovey, South Killingly,	2
Tidy and Lamp Mat, Miss F. A. Ward, Middletown,	1
Leather work, What Not, Mrs. C. M. Darrow, Hartford,	2
Case Stuffed Birds, do. do. do.	2
Embroidered Apron and Handkerchief, D. H. Rood, West Hartford,	2
Lace Veil and Embroidered Collar and Sleeves, S. J. Woodford, West Hartford,	3
Pine Cone Table, Mrs. A. Carroll, Windsor Locks,	2
Silk Bedquilt and Ottomans, A. Utley, Hartford,	3
Sea Moss and Flowers, C. F. Swan, New London,	1
Worked Table Cover, Mrs. C. Post, Hebron,	1
Case Paper Flowers, Mrs. E. Barber, Plainville,	1
Embroidered Needle Books, Miss E. Brewer, East Hartford,	1
Pine Cone Basket, A. C. Webster, Bolton,	1
Pair Ottomans, Miss M. L. Bassett, Hartford,	1
Worsted Work, Mrs. C. Russell, Haddam,	1
Bedquilt and Tidy, M. Clark, Hartford,	1
Worked Collar, Miss J. Jameson, Middletown,	1
Card Basket, E. A. Johnson, East Hartford,	1

The committee desire to make honorable mention of various articles exhibited, as follows: a Cottage view, made of shells, by Miss E. Turner, of Springfield, Mass.; a Collar and Handkerchief, by Miss J. Norton, of Goshen; a boquet of Wax Flowers, by Mrs. S. Page, of New Britain; a very pretty Worked Handkerchief, by W. B. Seymour, of Hartford; a Lamp Mat, by Mrs. Burr, of Bloomfield, and a box of Bead Baskets, by Miss S. Walker, of Plainfield, a lady totally blind.

W. R. HITCHCOCK.
C. B. WHITTLESEY.

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CLASS VII.

COMMITTEE NO. 50.—COTTON AND WOOLEN GOODS.

The Committee on Cotton and Woolen Goods, and other articles of American manufacture, respectfully report that they have made the following awards of Diplomas:

Cotton Twine, manufactured by Harris Brothers, West Woodstock.

Ginghams, by the Manchester Mills, Manchester.

Cotton and wool and all wool Flannels, by E. W. Williams, Norwich.

Ingrain and Brussels Carpets, by the Hartford Carpet Company, Thompsonville.

Velvet and Brussels Carpets, by the Bigelow Carpet Company, Clinton, Mass.

Best display of Bleached and Brown Sheetings, below No. 20, Quinebaug Company, Brooklyn.

Seamless Bags, by the Centerville Company, Vernon.

Cotton Spool Thread, by the Willington Thread Company, Willington.

Wove Skirts, by John Hanfield, Tariffville.

Black Satinets, by the Springville Company, Rockville.

Wool Shirts and Drawers, by the Pacific Company, Manchester.

Fancy Cassimeres, by the American Mills, Rockville.

Printing Cloths, by the Tunxis Mills, Poquonnock.

Rope, Cord and Twine, by Abner Church, Hartford.

Felt Beaver Cloths, by the Union Manufacturing Company, Norwalk.

Brown and Bleached Sheetings, above No. 30, by the Wauregan Mills, Plainfield.

Cloaks, Mantillas and Talmas, S. W. Griswold & Co., Hartford.

Your committee can not but regret that in an exhibition so creditable to the skill, taste, ingenuity and public and private spirit, not only of the officers of the Society, but of the citizens of our State generally, that the important branches of manufacture and sources of wealth and prosperity designated under the class assigned to them, should have had so meager a representation. Dotted over its entire surface as our State is with factories; alive as our towns and villages are with the hum of busy machinery, where every quiet brook or noisy waterfall is made to contribute to the skill and industry of our

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manufacturers, and standing as we do in the front ranks among our sister States, not only in the value but in the beauty and taste of the products of our looms and spindles, it would seem that in an exhibition of this character, these products should have been if not the most, at least one of the most attractive features. Your committee were much in doubt, so little was the competition in most articles offered for their examination, whether to make any awards; but justice to the exhibitors and to the excellent quality of some of the articles exhibited, seemed to demand that they should not be passed by without notice. Your committee, therefore, have made their awards only to such parties as in their judgment have presented goods of their own manufacture, deserving of notice either for excellence of fabric or skill and taste in design, without regard to the circumstance that in most of them no comparison could be instituted with other similar productions. If some specimen of manufactured goods, inferior to others of the same class produced in the State, have thus received the benefit of a diploma from the Society, it must be attributed to the want of interest shown by the producers, to avail themselves of this opportunity to lay before the public the products of their skill. Your committee trust that before the next annual return of our State Fair, that the manufacturers of cotton and woolen goods will have infused into them a little of the public spirit and emulation which has animated all other classes of producers in our State, and that they will make such an exposition as shall do credit to themselves and honor to the State.

Before leaving this subject, your committee would respectfully suggest, that a place be assigned in this class to woolen yarn, manufactured by machinery. This has become, in some parts of the State, quite an important branch of the manufacturing interest, and deserves and should have a prominent place in the list of premiums awarded by your Society. Several beautiful specimens were presented, but your committee could not find it classified in any list. It belongs, properly, in their opinion, in the class designated "Cotton and Woolen Goods of American manufacture."

Respectfully submitted by

SIDNEY A. WHITE.
E. A. CONVERSE.
E. T. GOODRICH.
} *Committee.*

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COMMITTEE NO. 51.

The Committee on Class VII., No. 51, report the following awards:

Best exhibition of Plated Ware,	Rogers Brothers Manufacturing Co., Hartford,	Gold Medal.
do.	Table and Pocket Cutlery, A. Burkinshaw, Buryville,	do.
do.	Pistols, Col. Samuel Colt, Hartford,	do.
do.	Rifles, Sharp's Rifle Manufac'g Co., Hartford,	do.
do.	Metal Buttons, Scoville do. Waterbury,	do.
do.	Other do. W. R. Hitchcock & Co., Waterbury,	Silver Medal.
do.	Spectacles, E. Newbury, Brooklyn,	Gold Medal.
do.	Dental Instruments, A. Merriman, Middletown,	Silver Medal
do.	Dentist's Work, S. L. G. Crane, Hartford,	do.
do.	Embossing Tools, Gun and Pistol Primers, Lewis White, Hartford,	do.

The committee take special pleasure in awarding a Gold Medal for the case of rifles exhibited, considering that the superiority of the arm and the extreme beauty and perfection of their finish, are a high honor to the inventive genius and manufacturing skill of our State. Among the articles to which premiums could not be awarded by reason of their having been entered or received too late, or as not fully enough answering the description or variety for which premiums were offered, are Surgeon's Splints, by B. Welch, Lakeville; Artificial Legs, Palmer & Co., Springfield, Mass.; Galvanized Knives and Forks, Chase Hill, New Haven; specimens of Enameled Door-Plates, S. A. Bunnell, Seymour; case Metal Buttons, Steele & Johnson Manufacturing Co.; case of Pocket Cutlery, from the Empire Co., T. P. Snow, agent, Hartford.

The committee beg to express their surprise and regret, that no more of the manufacturers and artizans of the State have thought it worth while to take the trouble of exhibiting their wares; and they hope that hereafter *State pride*, if nothing else, will induce them to follow such notable examples as Col. Colt's, whose talent and fame could scarcely be more honored or extended, by awards from this society, and all similar ones on both sides of the ocean.

All of which is respectfully submitted.

JOHN B. YOUNG.
A. P. HYDE.
W. T. BARBER.

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COMMITTEE NO. 52.—WOODEN WARE, &c.

The Committee on Wooden Ware, respectfully report the following awards:

To John W. Lloyd, Hartford, Miner's Patent Wash Tub,	$1
C. Porter, Meriden, Splint Baskets, - - -	2
W. G. Bunnell, Burlington, Splint Baskets, -	1
State Reform School, Meriden, Plant Supports and Baskets,	2
Ralph E. Simons, Glastenbury, Wicker Baskets, -	1

Your committee beg leave to observe, that the Wicker Baskets from the State Reform School, evince a degree of skill in their construction, equally surprising and gratifying. If these specimens are produced by the boys in the school, the incidental benefits of the institution are greater than the public have supposed. Boys capable of so high an attainment of skill as is exhibited in these specimens, need only an opportunity to make themselves useful and valuable citizens. The Patent Wash-tub exhibited by Mr. Lloyd, is beyond question the best wash-tub in use. It is correct in principle, convenient in its plan and easy in working. Messrs. Hotchkiss, Turner & Co., exhibited Spring-hinge Clothes-pins, a patent article, ingenious and well adapted to the object. The Splint Baskets exhibited by Mr. Porter, are very finely wrought and worthy of high praise. The specimen by Mr. Bunnell, though very nice, is less even and exact in its construction, but excels in strength and durability.

All of which is respectfully submitted.

ALFRED WALKER.
DEXTER ALDEN.
ALBERT W. KNAPP.

COMMITTEE NO. 53.—LEATHER.

The Committee on Leather and its manufacture, have examined very carefully and minutely all the goods entered in this class. The entries are not large, but the committee find the articles here named to be of such superior quality and workmanship, as to entitle the exhibitors to premiums, and your committee have awarded premiums as follows:

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To S. D. Northway & Co., S. Norfolk, for English Roans and Skivers, - - - - Diploma.
Ezra Dean, Woodstock, for best Belt Leather, - $3
do. do. Harness do. 5
do. do. Neats do. - 5
do. do. Calf Skins, - - 5
Wm. Humes, Killingly, best exhibition Lady's Shoes, 5
do. do. 2d do. do. - - 3
do. do. best do. Men's Congress Boots, 5
I. Hills & Son, Hartford, Men's and Boy's Kip Boots, - 5
A. E. Emmons, Westchester, 2d best Calf Skins, - 3
L. Shepard & Son, Norfolk, for extra Sheep Skins and Skivers, best, - - - - 5
P. Jewell & Sons, Hartford, best exhibition of Engine Hose, Diploma.

All of which is respectfully submitted.

J. R. BRONSON.
W. H. BROWN.
HENRY HAMMOND.

COMMITTEE NO. 54.—HATS, CAPS AND BONNETS.

The Committee on Hats, Caps and Bonnets, respectfully submit the following list of awards, after a careful examination of the articles offered for competition:

Best variety of Bonnets, W. R. Hitchcock, Norwich, - $5
do. do. Straw Bonnets, C. Hibbard, Rockville, - 5
do. do. Furs, P. D. Stillman, Hartford, - - 5
do. do. Caps, do. do. - - 3
do. White Silk Hat, P. S. Vinton, do. - - 5
do. Silk Shirred Hat, Mrs. & Miss Buck, Hartford, 5
2d best do. do. Bamberger & Rosenblatt, do. - 3

W. H. COMSTOCK.
B. B. PLUMB.
ELI T. NICHOLS.

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COMMITTEE NO. 55.—TAILOR'S WORK.

The Committee on this department have to report quite too small a display in this particular branch of mechanics; a very important one, as every gentleman is abundantly able to testify. They find that the probable reason for so much backwardness among the tailors in this matter is, that heretofore the judges in this department have not been practically skilled in the business, and therefore could not give as correct and satisfactory decisions as those who might be passing judgment upon articles manufactured in their own line of business or profession. This discouraging feature, it is suggested, should not continue, and that practical tailors should be selected as judges in this department. It is to be hoped that the tailors of Connecticut will abandon their fears on this ground in future, and by a more free and full exhibition of the skill which they are known to possess, add new luster to the Society, and at the same time advance their own best interest.

The committee award the following premiums:

To Henry Schultz, Hartford, for best Dress Coat, - - $5
do. do. do. Overcoat, - 3
To Ida Thomas, for Boy's Fancy Suit, - - - 2

All of which is respectfully submitted.

EDWARD WORTHINGTON, *Chairman.*

COMMITTEE NO. 56.—INDIA RUBBER GOODS.

The Committee to whom was referred the India Rubber department of Manufactured Goods, report a case of rubber goods entered by the Novelty Rubber Company, of New York, consisting of sample cards of buttons, and buttons in boxes, of very fine workmanship and quality; also, pen and pencil cases, syringe, cork-screws and a powder-flask of new construction, entered by A. G. Day & Co. of New York, all showing the great variety of uses to which this valuable material can be adapted. But the articles being of recent invention, with no competition, they would recommend a diploma to both par-

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ties for the ingenuity displayed in the manufacture of the articles, and the mechanical skill shown in their construction.

All of which is respectfully submitted.

J. E. DUNHAM.
HENRY MARTIN.
WM. HUMES.

COMMITTEE NO. 57.—COPPER AND BRASS WARE.

The Committee on Copper and Brass Ware, report the following awards:

To the Scoville Manufacturing Co., Waterbury, for the following articles: one case Butts, copper, single and double silver plated, and Daguerreotype Mattings and Preservers, the Society's diploma or gold medal, at the option of the contributors.

To the Waterbury Brass Co., Waterbury, for assortment of Brass Kettles, diploma or gold medal, at option of contributors.

To Benedict & Burnham Manufacturing Co., Waterbury, for Copper and Brass Wire, Door Rail Wire and Sheet Brass, diploma or gold medal, at option of contributors.

To the Waterbury Hook and Eye Co., Waterbury, for samples of Brass Cornice and Window Trimmings and Copper and Brass Rivets, Burrs and Brass Nails, diploma or gold medal, at option of contributors.

The committee being unable to detect any appreciable difference between the merits of the goods of the several competitors on Hooks and Eyes, award to each the Society's Diploma for the excellence of their goods both in material and workmanship, *viz.:*

To the American Pin Company, Waterbury,	Diploma.
Howe Manufacturing Company, Birmingham,	do.
Oakville Company, Waterbury,	do.
W. R. Hitchcock & Co., do.	do.

All of which is respectfully submitted.

NORMAN PORTER.
JOSEPH BOOTH.
J. H. BROWN.

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COMMITTEE NO. 58.—TIN AND IRON WARE.

The Committee on Tin and Iron Ware, recommend the following discretionary premiums:

To E. J. Bassett, Hartford, for Spratt's self-sealing Cans,		$2
J. W. Arthur,	do. for case of Files, - -	2
F. W. Northrop, New Haven, for Fancy Screws,		2
Hall Birdsey, Middletown, R. N. De Guyon's Patent Lamps,		1
Backus & Barstow, Norwich, Cast Iron Sink,	-	1

All of which is respectfully submitted.

EDWARD NORTON.
H. S. COLLINS.

COMMITTEE NO. 59.—STOVES, &c.

The Committee on Stoves, &c, beg leave to report, that they have attended to the duties of their appointment, and have made the following awards:

The best House Furnace, D. S. Brooks, Hartford,		Gold Medal.
do.	Cooking Range, Gilbert & Bronson, Hartford,	do.
do.	Cook Stove, do. do. do.	Silver Medal.
do.	Parlor Stove, Backus & Barstow, Norwich,	Diploma.
do.	Coal Stove, Parlor, W. J. Phillips, Hartford,	do.
Pierce's Pot Furnace, Gilbert & Bronson, Hartford,		discretionary, $5
House Furnace, E. G. Hastings,	do. do.	3

All of which is respectfully submitted.

HERMAN BALDWIN.
NATHAN ALLEN.
O. S. WOLCOTT.

COMMITTEE NO. 60.—PAPER.

The Committee on Paper, respectfully present the following awards:

To Platner & Porter, Unionville, best Writing Paper, Diploma.

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To W. H. Imlay, Hartford, Printing Paper, - Diploma.

All of which is respectfully submitted.

F. A. BROWN.
THOMAS ROBINSON.
HENRY PECK.

COMMITTEE NO. 61.—CABINET WARE.

The Committee on Cabinet Ware, respectfully report:—That they have examined the articles specified in the schedule handed them, so far as they were able to find them. Three of the articles, *viz.*, a Work-box, by F. G. Daniels, of Hartford, and a Bedstead and Toilet-table, by H. R. Plympton, of Westfield, Mass., we were not able to find. We examined, with great pleasure, a beautiful assortment of Cabinet Furniture, by Rollin Church, of New Haven, consisting of one oak Sideboard, one rosewood Bedstead with spring mattress, one dressing Bureau, six parlor two arm, one antique and two reception Chairs, one Etugere, one Wash-stand, one parlor Table, one Hat Rack, one Music Rack, one Sofa and two Tête-a-têtes, and one Whatnot, all rosewood, and one Bureau, to which they award a *Gold Medal.* Two Spring Matresses from Heman Brandt, of Hartford, which appear very well; but of their durable qualities it is impossible to judge from any examination we could give them; but from their very elastic construction and apparent good workmanship, the committee award a Diploma.

To Marvin Hale, of Hartford, for a very ingenious Fancy Table, made up with great taste from a large variety of woods, the committee award a *Silver Medal.* To F. J. Wagner, of Hartford, for a good Work-box, a *Diploma.* To P. B. Blackman, of Deep River, for a set of Doors, Sashes and Blinds, for good workmanship, and some very valuable improvements in the blinds, securing the entire exclusion of light when closed, the committee award a Diploma.

The articles to which our attention was called were very fine; but the exhibition in this department, as a whole, we regard as very meager, and would respectfully suggest that in this very important branch of our domestic industry, some special effort should be made to secure a fuller exhibition hereafter.

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All of which is respectfully submitted.

C. B. LINES.
D. DEWEY.
RODERICK DAVISON.

The articles not found by the committee, were not brought upon the ground, through accidental delay, until the afternoon of Wednesday, after the committee had handed in their report.

COMMITTEE NO. 62.—CARRIAGES.

The Committee on Carriages submit the following report:

To George Francis, Hartford, best double Carriage, Gold Medal.
E. W. Webster, Plainville, best Top Buggy, Silver Medal.
James M. Wiswell, New Haven, best Open Buggy, do.
George Francis, Hartford, best Pleasure Wagon, Diploma.
N. Haven Wheel Co., N. Haven, best Carriage Wheels, do.
do. Spring Co., do. best Carriage Springs, do.
Coach Lace Co., Bridgeport, best set Carriage Trimmings, - - - - Silver Medal.
M. A. Kellogg, of Philadelphia, for a beautiful open Buggy, which, if manufactured in the State, would have taken the first premium, Diploma.
L. Mansuy, of Hartford, for a fine Open Buggy, do.
George Francis, do. for a Portable Top Buggy, equal to any on the ground, with patent coupling, - - - - Diploma.
W. Fraser, of Hartford, for a beautiful little Chaise or Baby Carriage, - - - do.

The committee would also call particular attention to a Buggy, exhibited by Stephen Butler, of New York, in which the hub is made upon an entirely new principle.

All of which is respectfully submitted.

RUSSELL TOMLINSON.
JAMES DIXON.

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COMMITTEE NO. 63.—MUSICAL INSTRUMENTS.

The Committee on Musical Instruments, submit the following awards, *viz.:*

To Light, Newton & Bradbury, for best Piano, exhibited by J. Farris, of Hartford, Agent, - Gold Medal.

Allyn & Bidwell, New London, best Piano made in the State, - - - - - do.

C. W. Fiske, Ansonia, for Melodeons, best quality of tone, - - - - - Silver Medal.

N. J. Potter, Bristol, for Melodeons, power of tone and workmanship, - - - - Diploma.

Carhart & Needham, N. Y., by J. Farris, Hartford, best 7 octave Melodeon, - - - do.

Haven & Co., Hartford, best exhibition Musical Instruments, - - - - - Gold Medal.

All of which is respectfully submitted.

L. T. DOWNES.
ROBBINS BATTELL.
J. M. LINSLEY.

CLASS VIII.

COMMITTEE NO. 64.—FINE ARTS.

The Committee on Fine Arts, respectfully report:—That in the specimens of art submitted to their examination, they have been gratified to perceive a high appreciation of its true principles. As a collection, we consider it superior to any similar exhibition we have ever witnessed, and we can not forbear to congratulate your Society on the evidence it affords of the success of your efforts to popularize the arts and bring them to the homes of the people. There seems a peculiar fitness in the encouragement of art by your Society. We may naturally look to the rural districts for the highest and most universal appreciation of the forms of grace, and perception of the

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beautiful. Many of the most pleasing subjects of the painter are drawn from objects of special interest to the farmer. The simple materials, capable of being wrought into the most perfect forms of ideal beauty, are most often gathered from animal and vegetable life. The artist, equally with the farmer, seeks with fastidious taste the most perfectly developed cattle and horses to grace his landscapes. A beautiful tree is equally an object of interest to both. Whatever tends to its more perfect development, tends also to enlighten the understanding and refine the feelings, to substitute a pure source of mental enjoyment for the too common gratification of mere sense. Our homes should be made attractive, our children become familiar with forms of true grace and beauty, and the "perception of the beautiful" need not, will not, be a luxurious sensation, only to be enjoyed by the few, who have been favored with superior opportunities for its development. Costly decoration is not needed. Let the taste be properly cultivated, and it will often seek the simplest subjects for its gratification. It will develop itself in all the arrangements of the household, the garden, and the farm. That there has been a progress in the right direction, is as apparent as that progress has been made in agriculture and the mechanic arts. We may see it, not in the more costly adornment of our dwellings, but in the improved taste, the more artistic forms by which we are surrounded. We see it not only in our dwellings, but as we walk the streets of our towns and villages, or ride along our highways. It is the more cultivated and refined taste which prefers the graceful elm, or pure form of the maple, to the stiff and rigid Lombardy poplar which once lined our streets. We look for the time coming, when the roadsides not only in and near our villages, but along our farms, shall no longer be disfigured by noxious weeds and other unsightly objects. You would not seek a true work of art amid the coarse accompaniments of the grog-shop; you would scarcely expect to find a well-cultivated farm behind a barricade of brambles, burdocks and nettles.

In awarding the prizes which your Society have placed at our disposal, we have been somewhat embarrassed by the want of classification of the pictures, unavoidable in the limited time which could be given to the proper arrangement of so large a number, in the space assigned for their exhibition, and the limited opportunity for their careful examination. In some instances we have found it difficult to decide on their relative merits. If we have done injustice to any deserving competitors, we hope they will find their reward

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[illegible]

[illegible] Silver Medal.

[illegible] do.

[illegible] Hartford, for [illegible] Figures [illegible]

[illegible] Gold Medal.

[illegible] Hartford, for best Landscape [illegible] do.

[illegible] Hartford, for a beautiful Landscape View of [illegible] do.

[illegible] Hartford, for beautiful Landscapes. do.

[illegible] for excellent specimens of Portrait Painting and Head of a [illegible], a work of much merit, do.

[illegible] Hartford, for Still Life painting in oil. Silver Medal.

[illegible] Norwich, for best Original Portraits in crayon, do.

[illegible] W. [illegible] Hartford, for Landscapes from [illegible] do.

W. [illegible] for best Original Design for a Church. Gold Medal.

W. T. [illegible], Norwich, for Designs for Churches. Diploma.

[illegible], Norwich, for Designs for private residences and [illegible], Gold Medal.

S. A. [illegible], Hartford, for best Photographs. do.

[illegible], Waterbury, for best Colored Photographs, Silver Medal.

G. W. Davis, Hartford, for best improved Ambrotypes, do.

[illegible] & Williams, Middletown, for best Daguerreotypes, Gold Medal.

W. F. Hardy, Hartford, for best Daguerreotypes in crayon style, Silver Medal.

E. B. & E. C. Kellogg, Hartford, for best specimens of Lithography, do.

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To Pupils and Amateurs.

To Miss H. N. Green, Hartford, for best copy of Landscape in oil, and best copy of Group, in oil, - Silver Medal.
Miss E. A. Clark, Hartford, copy of Head, in oil, Diploma.
Miss Julia Childs, East Hartford, best copy of Head, in crayon, - - - - Silver Medal.
C. H. Owen, Hartford, for best Landscape, in crayon, do.
G. Trumbull, Jr., Hartford, best Colored Landscape, in crayon, - - - - do.
Miss Emma Hunt, for best Pencil Drawing, - do.
F. E. Goodrich, Hartford, copies of Landscape, in pencil, do.
F. J. Busch, Hartford, for fine Colored Heads, &c., in crayon, - - - - - do.
E. E. House, Hartford, for Pencil Drawings, - Diploma.
C. E. Kellogg, for Crayon Drawings, - - do.
Miss E. H. Gillette, Hartford, for two Pencil Drawings, do.
A. L. Butler, for colored Crayon Drawings, - do.
Miss E. J. Baldwin, Milford, Pastile Drawings, do.
Miss Kate Hayden, for Crayon Figures, - - do.

We would particularly commend the fine execution of other specimens of drawings, by pupils of Prof. Busch, and other works by artists and amateurs, which we do not find entitled to further notice by the rules of your Society.

We also desire to mention and commend the liberality of the several persons who have loaned rare and valuable paintings from their private collections, to add interest to the exhibition during the continuance of the Fair.

D. C. ROBINSON.
J. G. BATTERSON. } *Committee.*
N. HOLLISTER.

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CLASS IX.

COMMITTEE NO. 65.—FRUITS.

The Committee on Varieties of Fruit, award the premiums as follows:

To Norman Porter, of Berlin, 1st premium, - - $15
Charles Mathewson, Pomfret, 2d do. - - 15

E. N. BISHOP.
W. W. TURNER.
S. W. GOLD.

COMMITTEE NO. 66.—PEARS.

The Committee on Pears, (Class IX., No. 66,) have attended to the duties of their appointment, and beg leave to report:—That the exhibitors for premiums were forty, and the number of *known* varieties were one hundred and seven, exhibited on four hundred and thirteen plates. There were also five varieties of Seedling Pears. Besides these, there were some very fine specimens for exhibition only. Also, many specimens of fine Pears, with the nomenclature of which your committee are unacquainted—names for the same being desired by the exhibitors.

The comparative merits of the collections exhibited by different competitors, were so nearly equal in merit, that the committee, in several instances, found it extremely difficult to decide. They however exercised their best judgment, not without fears of having erred, the lot of all, and have awarded for stated premiums, as follows, *viz.*:

For the largest and best variety of Pears, not less than three specimens of each variety, to P. D. Stillman, of Hartford, - - - - - $10
second best do. do. do. C. B. Lines, New Haven, - - - 6
third best do. do. do. Solomon Porter, Hartford, - - - - 4
For best twelve varieties of Pears, A. W. Birge, Hartford, 6
second do. do. C. B. Lines, New Haven, 5

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For best eight varieties of pears,		C. T. Webster,	Hartford,	$5
second	do.	do. H. W. Terry,	do.	4
best six	do.	do. Gurdon W. Russell,	do.	4
second	do.	do. Asa Foote,	Windsor,	3
best dozen Pears,		Beurrè Bosc, Elisha Colt,	Hartford,	3
second	do.	Beurrè D'Aremberg, Alfred Smith,	Hartford,	2
third	do.	White Doyenne, T. D. Boardman,	do.	1
best Seedling, Howel,		Mrs. W. Cutler,	New Haven,	3

Discretionary Premiums.

For collection of Pears,		H. L. Bidwell,	Hartford, - -	$3
do.	do.	John M. Niles,	do. -	2
do.	do.	J. Winship,	do. - -	2
do.	do.	P. M. Augur,	Middlefield, -	1
eight varieties Pears,		P. Steele & Son,	West Hartford,	2
six	do.	do. F. J. Huntington,	Hartford, -	2
four	do.	do. John T. Norton,	Farmington, -	2
four	do.	do. Alfred Smith,	Hartford, -	2
ten	do.	do. Sheldon Moore,	Kensington, -	1
three	do.	do. Roland Mather,	Hartford, -	1
two	do.	do. W. W. Turner,	do. - -	1
two	do.	do. Charles Griffing,	do. -	1
five dozen		do. Charles B. Lines,	New Haven, -	2
two	do.	do. James Harrison,	do. -	1
one	do.	do. Doyenne Boussouck, Joseph Eldridge,	Norfolk, - -	1
one basket		do. Seckel, Samuel Root,	West Hartford,	1

The Seedling varieties presented, were

Two by Doct. Eli Ives, of New Haven.

One by P. M. Augur, of Middlefield.

One by Charles Mathewson, Pomfret.

One by John T. Norton, Farmington.

The Seedling varieties presented were, a plate of the Howel, from Mrs. W. Cutler, New Haven; two by Dr. Eli Ives, New Haven; one by P. M. Augur, Middlefield; one by Charles Mathewson, Pomfret, and one by John T. Norton, Farmington. With the exception of the first, the Howel, they were not such, in the opinion of the committee, as to merit a premium. This variety, one of real merit, has not, we understand, yet received a premium from any Society in this State; and although it is somewhat known, it is but just that it should receive some notice from us.

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The specimens of Pears exhibited, were generally in fine condition, showing evidence of high cultivation, and evincing a commendable degree of industry in the producers, whose example, it is hoped, will be followed by many, whose attention has not hitherto been given to the culture of the pear, and in sufficient numbers to permit *all* to enjoy, when in perfection, this most luscious of Pomona's gifts.

Respectfully submitted.

NATHANIEL A. BACON.
GURDON W. RUSSELL. } *Committee.*
EDWIN NEWBURY.

Dated at Hartford, Oct. 10, 1855.

COMMITTEE NO. 67.—APPLES.

The undersigned respectfully submit the following awards of premiums, *viz.:*

1st premium,		Solomon Porter, Hartford, for the largest and best collection of Apples, - - -	$8
2d	do.	N. W. Stanley, New Britain, - -	6
3d	do.	P. Steele & Son, West Hartford, - -	4

Best 24 *Varieties.*

1st premium,		J. W. Gillette, Burlington, - -	$6
2d	do.	A. C. Griswold, Wethersfield, - -	4

Best 12 *Varieties,*

1st premium,		A. Savage, Hartford, - - - -	$3
2d	do.	E. Hosford, Canton, - - -	2

Best one-half bushel, of 12 *Varieties.*

To		Charles Mathewson, Pomfret, Roxbury Russets, -	$1
		Jonas L. Prosser, Bloomfield, Baldwin, - -	1
		L. G. Goodrich, Simsbury, R. I. Greening, - -	1
	do.	do. do. Peck's Pleasant, -	1
		N. Peck, New Britain, Fall Pippin, - - -	1
		S. D. Case, Canton, Northern Spy, - -	1
		Ira Miller, Middletown, Hubbardston's Nonesuch, -	1
		P. H. Ashton, do. Westfield Seeknofurther, -	1

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To C. Mathewson, Pomfret, Blue Pearmain, - - $1
Edwin White, Brooklyn, Coggswell Pearmain, - 1
Jonas L. Prosser, Bloomfield, Wine Apple, - - 1
Charles L. Seymour, Rocky Hill, Alexander, - 1

There were eight entries of Seedling Apples, but none of them, in the opinion of your committee, possessed such distinctive characteristics or merit, as to warrant their being recommended for general cultivation. They have therefore made no award of premiums for seedling apples.

Your committee recommend the following gratuities:

To Sheldon Moore, Kensington, - - - - $3
John T. Norton, Farmington, - - - 2
Charles Mathewson, Pomfret, - - - - 2
P. M. Auger, Middlefield, - - - - 1
Asa Foote, Windsor, - - - - - 1
B. Ives, Cheshire, - - - - 1
S. Mead, Greenwich, - - - - - 1
Horace Williams, East Hartford, - - - 2
R. Moore, Berlin, - - - - - 1
Morris Scoville, Farmington, - - - 1
E. Bolles, Hartford, - - - - - 1
A. Griswold, Wethersfield, - - - - 1
H. Latimer, Hartford, - - - - - 1
W. Hubbard Yale, Meriden, - - - 1.50
J. K. Hall, East Hartford, - - - - 1
Norman Porter, Berlin, - - - - 1
Ira Miller, Middletown, - - - - - 1
P. H. Ashton, do. - - - - 1
E. A. Holcomb, Granby, - - - - - 1
O. M. North, New Britain, - - - 1
S. Root, West Hartford, - - - - 1
P. Smith, Hartford, - - - - 1
M. G. Griswold, West Hartford, - - - 1
R. R. Phelps, Manchester, - - - 1

CHARLES OSGOOD. } *Committee.*
STEPHEN HOYT. }

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COMMITTEE NO. 68.—OTHER FRUIT.

The Committee on other Fruit, report the awards as follows:

Best collection of Peaches,			C. E. Comstock, Norwalk, -	$5
2d	do.	do.	Asa Fitch, Bozrah, -	3
3d	do.	do.	H. L. Bidwell, Hartford, -	2
Best dozen, one variety, of Peaches,			C. E. Comstock, Norwalk,	1
Best collection of Plums,			Gurdon W. Russell, Hartford, -	5
2d	do.	do.	P. H. Ashton, Middletown,	3
3d	do.	do.	G. B. Hawley, Hartford, - -	2
Best and largest variety of Quinces,			S. Moore, Kensington,	3
2d	do.	do.	do. J. K. Hall, East Hartford,	2
Best	do.	do.	Grapes, grown in open air, C. B. Lines, New Haven,	5
2d	do.	do.	do. do. S. Porter, Hartford,	3
Best Grapes, grown under glass,			T. S. Gold, West Cornwall,	5
2d	do.	do.	Rev. J. Eldredge, Norfolk,	3
Best six varieties,		do.	Asa Fitch, Bozrah, -	3
2d	do.	do.	Mrs. C. S. Maltby, N. Haven,	2
Best six bunches		do.	John T. Norton, Farmington,	2
Largest and best collection of Watermelons,			P. D. Stillman, Hartford,	2
2d	do.	do.	do. S. E. Whiting, Simsbury,	1
	do.	do.	Muskmelons, P. D. Stillman, Hartford,	2
Best peck Cranberries, cultivated,			B. Lathrop, Tolland, -	3
2d	do.	do.	do. G. Foster, South Windsor,	2
Best basket Fruit,			C. B. Lines, New Haven, - -	2
2d	do.	do.	P. D. Stillman, Hartford, - -	1

The committee recommend the following gratuities:

To P. H. Ashton, Middletown,	case foreign Grapes, -		$1.50
J. Harrison, N. Haven,	best bunches	do. under glass,	1
P. D. Stillman, Hartford,	3 varieties Grapes,	open culture,	1
W. Hudson,	do.	one tray Isabella Grapes, -	1
H. L. Bidwell,	do.	lot Quinces, - -	1
Solomon Porter,	do.	do. - - -	1
Mrs. E. L. Smith, Bethany,		jar Preserved Citron, -	1
P. H. Ashton, Middletown,		bottle Maple Molasses, -	1

All of which is respectfully submitted.

CHARLES MATHEWSON.
T. B. CHAPIN.
EDWIN B. WEBSTER.

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COMMITTEE NO. 69.—FLOWERS.

The Committee on Flowers, (Class IX., No. 69,) have attended to the duties of their appointment, and beg leave to report:—That the number of exhibitors for premiums was only fifteen, and the number of entries only twenty-six, which was far below the expectations of your committee. We were also highly gratified at the liberal generosity of some of the citizens of Hartford and vicinity, in filling up the vacancies that would otherwise have been, with plants and flowers that were not entered for premiums. We regret to say that there were not enough of some varieties to fill out the amount of premiums allotted for us to distribute, and of some varieties none at all were exhibited. At the same time it should be borne in mind, the early and *severe frosts* we have had this fall, that have thus unceremoniously robbed us of the blooming beauties of nature, that have decorated our homes during the past year. Your committee would call particular attention to the collection of Flowers from the garden of Charles S. Mason & Co., of Hartford, and to the very splendid mixed boquet from Mrs. C. B. Lines, of New Haven, and to a small but splendid boquet from Rev. Joseph Eldredge, of Norfolk, as deserving particular attention. Having exercised our best judgment, we have awarded for stated premiums, as follows, *viz.:*

For the best collection of Flowers, C. S. Mason & Co., Hartford, $10
do. Boquet, Mrs. C. B. Lines, New Haven, - 4
do. second best, Rev. Joseph Eldredge, Norfolk, 3
do. third do. R. Whitman, Hartford. - - - 2
do. fourth do. John Grou, Hartford, - - 1
For the best collection cut Roses, C. S. Mason & Co., Hartford, 5
do. second do. John T. Norton, Farmington, 4
For the best collection Dahlias, James Craig, New Haven, 6
do. second do. S. D. Case, Canton, - 4
For the best 12 dissimilar Dahlias, C. S. Mason & Co., Hartford, 3
do. second best do. Mrs. M. A. Goodrich, Wethersfield, - - 2
For the best Verbenas, C. S. Mason & Co., Hartford, - 3
do. second best, John Grou, do. - - 2
For best collection Plants, in pots, not less than twenty different specimens, C. S. Mason & Co., Hartford, 10
2d do. do. John T. Norton, Farmington, 8

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Your committee would also recommend Discretionary Premiums, to be awarded as follows:

For two baskets Flowers, beautifully arranged, R. Whitman, Hartford, - - - - - - $3

For a variety of cut Flowers, aside from cut Roses, John T. Norton, Farmington, - - - - 1

For a very splendid Cactus, H. L. Bidwell, Hartford, - 2

For two choice Mixed Boquets, Asa Fitch, Bozrah, - 1

Your committee would desire to call particular attention to a beautiful display of Orange and Lemon Trees, from the garden of John Grou, of Hartford, which was attended with much difficulty and risk, both to the owners and plants, and as they have added so much to the beauty of the Horticultural tent, would recommend that a premium of $6 be awarded him. We would desire to call attention to several baskets of Flowers, sent in for exhibition, but not for premiums, especially Mrs. Wm. A. Spencer, of Hartford.

We hope that should we be permitted to attend another State Fair, we shall see the exhibition of Flowers very greatly increased, both in variety and numbers, until this department shall be second to none in our country, for we are satisfied that Connecticut possesses all the facilities for a result so desirable to be accomplished.

L. C. HOYT, DANBURY.
E. WHITE, BROOKLYN.
C. P. WELLS, HARTFORD. } *Committee.*

Dated at Hartford, Oct. 10, 1855.

COMMITTEE NO. 70.—NATIVE WINES.

The Committee on Native Wines had fifty-two lots entered for their inspection. Twenty-four of these lots of wines called *Elderberry, Cherry, Currant, Raspberry, Blackberry, Apple, Whortlebury, Rhubarb* and *Vegetable* wines, and your committee could not consider these as coming within the intent and meaning of the Executive Committee in offering premiums for the best native wines. Moreover, though some of these so-called wines, undoubtedly possess qualities as valuable for certain purposes, as the wine from the grape is for other uses, yet it would have been manifestly absurd in your committee to institute comparisons between articles so radically dissimilar. They were therefore compelled to set aside all wines

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except those entered as made from the juice of the grape, or WINE, in the usual acceptation of the term.

Of the twenty-eight lots entered as the juice of the grape, your committee regret to say, that many were so offensive both to taste and smell, as to be rejected without hesitation. In most of these cases, it was evident that a very poor quality and too large a quantity of sugar or molasses had been used in their preparation; in other instances, bad ardent spirit had been added in such quantity as to quite conceal all flavor of the grape. There were also a few instances in which, though the wine appeared to be well manufactured in other respects, it had been carelessly fined and racked off, and the samples were too turbid to receive the favorable notice of the committee.

Lot No. 3, of the Society's books, to which was awarded the first premium of $10, was one of those lots entered by Jarvis Case of Canton. This was a sample of the pure juice of the Catawba grape, made with care and skill, and finely clarified. In flavor, it was equal to the best of the Cincinnati wines.

Lot No. 372, was a well manufactured wine, entered by C. Willard, of Hartford, to which was awarded the second premium of $8.

Lot No. 334, was an excellent wine with a strongly marked flavor of the Isabella grape, made by Asa Foote, of Windsor, and received the third premium of $5.

L. D. & L. B. Case, of Canton, exhibited ten different kinds of wine, some of which were of superior quality; but as the ten kinds were entered as one lot, your committee could only award them a discretionary premium of $3.

Lot 151 was a wine entered by Anson Martin, of Norwich, deserving particular commendation for its purity, flavor and soundness, being in those respects, equal to any wine exhibited, but it was not properly clarified.

Your committee give it as their opinion, that the prevailing defects in the manufacture of wine in this State are,

1st. That too much saccharine matter is added to the juice of the grape.

2d. That too much brandy or alcohol is added.

3d. That the process of fining and racking off, is not understood.*

* The process of fining, &c., is perhaps the most important part of the manufacture of wine, and it is also the most simple, if well understood. Full directions will be found in an excellent little treatise on the subject, by R. H. Phelps, of Windsor.

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The juice of the Catawba or Isabella grape needs no sugar nor ardent spirit in any form to make a good wine. If the common wild or fox grape is used, good sugar may be added in quantities of from one pound to three pounds to the gallon; the latter quantity never to be exceeded.

In conclusion, your committee would recommend that in future, all competitors for a premium on Native Wines be required to accompany their entries with a statement in writing, giving,

1st. The kind of grape from which the wine is made.

2d. Whether the sample entered is the pure juice of the grape.

3d. If not the pure juice of the grape, to state the quantity of sugar or ardent spirit used in its manufacture.

Your committee would also recommend that new premiums, and a new committee be established upon "Native Wines, not made from the juice of the grape," it being evident that a great and growing interest is felt in the manufacture of these wines, many of which are highly valued for medicinal purposes.

ERASTUS WILLIAMS, NORWICH.
S. W. GOLD, WEST CORNWALL.
GEO. BRINLEY, JR., HARTFORD.
} *Committee.*

CLASS X.

COMMITTEE NO. 71.—FARMS AND RECLAIMED LANDS.

The Committee on Farms and Reclaimed Lands, submit the following report:

Before entering upon their duties, the committee, in the absence of any definite instructions from the Society, agreed upon the following general principles *viz.:*

1st. That farms, in order to be entitled to the premiums of the Society, ought, in fact, to be pattern farms, worthy to be held up as examples.

2d. That none could be considered worthy to be held up as examples, where any obvious defect existed—such as *want of system in saving manure, poor fences, neglected buildings, imperfect tools, slovenly management, and neglect to drain where necessary and feasible.*

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3d. That expensive buildings, merely, or expensive improvements and culture, ought not to be deemed particularly meritorious, but on the contrary, that economical improvements, and judicious and practical management, such as could be imitated and carried out by the great mass of farmers, should be preferred.

The committee entered upon their examinations on the 21st of August, by visiting the farm of Mr. George Wilkinson, of Pomfret. The sudden death of Mr. Wilkinson, the night previous, prevented any thorough examination of the farm, no one being present to make explanations.

FARM OF JOHN M. JOHNSON, SOUTH WINDSOR. OCCUPIED 22 YEARS.

SIZE. From 250 to 300 acres.

SOIL. Sandy loam; flat surface, crossed five or six times by a small stream; numerous small pond holes.

BUILDINGS. An old dwelling-house, externally, somewhat neglected, but a pattern of neatness within. Barns and outhouses not in very good order.

FENCES. Poor.

MANURES. Mr. Johnson seems awake to the importance of manure. Quantities of muck had been carted into his yard, and large heaps of compost were ready for use.

STOCK. 28 head, *viz.*, 4 yoke oxen, 5 cows, 13 young stock, 2 horses.

CROPS. 16 acres fine corn, 2 acres buckwheat, 2½ acres potatoes, 2 acres rye, 2 acres tobacco, ½ acre oats. The crops looked well; grass lands well laid down.

LABOR. One man the year round; occasional help as needed.

The farm lies in a body, extending west from the house nearly a mile, toward the Connecticut river, and every part of it visible from the door. The land was originally much cut up by a stream meandering through it, and there were numerous pond-holes and swamps scattered over it; the whole, too, covered with bushes and briars. By a series of surface drains, and thorough grubbing, &c., about one hundred acres nearest the house is now in fine cultivation, producing annually, first-rate crops. Mr. Johnson's principal work, however, and one which is worthy of high commendation, is the recent reclamation of about 130 acres of wholly unproductive land, lying in a solid body in the west part of his farm, which, so far as the memory of man goes back, has been mostly wet, and the ground completely interlaced with roots. This was attacked boldly, about five years since, the pond-holes drained, the whole piece surrounded by a ditch, the

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[redacted]

[redacted]		$1,000
[redacted]		600
[redacted]		450
[redacted]	256—	1,336
		$2,664
[redacted] interest on value of stock and utensils, say, $2,000,		120
[redacted]		$2,544

The committee saw nothing in the cultivation and general man-

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agement of the farm to distinguish it from numerous others around it. The great merit in Mr. Gates' management, is in *feeding* in such a manner that an extraordinary quantity of superior milk is produced, which sells at an extra price. His system consists, (when pastures fail,) in cutting all his hay, and putting it into tubs twelve hours before feeding, with a suitable quantity of Indian meal, probably one to two quarts to each cow. A slight fermentation takes place. The theory is, that the hay, by this process, assumes the character of green feed. The cows were of the common mixed breeds, and appeared in fine condition, but exhibited no remarkable milking properties, except in the results, which must have averaged not far from three thousand quarts a year, each. The effect of the feed upon the health of the cows was not stated. It would not take long, however, when the committee saw them, to fat any of them for market. It is proper to add that Mr. Gates gives due attention to his pastures, in keeping open the surface drains, destroying weeds, &c.

FARM OF R. LINSLEY, WEST MERIDEN.

SIZE. 40 acres.

BUILDINGS. These consist of a new, handsome dwelling-house, with a large, well-built barn.

FENCES. Mostly new and good.

STOCK. A fine imported Devon bull, and several handsome cows, one imported.

FRUIT. A great variety of the choicest kinds.

MANURES. Arrangements seem to have been made to save everything valuable as manure; uses some guano.

Mr. Linsley is only on his farm once in a week, being engaged in business in New York. He has evinced, in the improvement of his land, a commendable spirit, and much intelligence. Owing to his absence, there is a want of neatness and order around the premises, that precludes the idea of awarding a premium for general cultivation. Under the head of "Reclaimed Land," however, Mr. Linsley exhibited a piece of about nine acres, which within a very short period, has been cleared, underdrained and subdued, and which is highly meritorious. It is now covered with crops of corn and potatoes, as promising as any seen in the State. The manure used was mostly a rich compost manufactured by Mr. Linsley, to which subject he devotes much attention. The cost of this improvement per acre, was as follows:

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Swamp land, draining 70 rods per acre, at 80 cents, $56
Upland, draining, same as above, - - - $56
Clearing, - - - - - - 20—$76

It was all formerly of no value. He now estimates it worth $200 per acre.

FARM OF E. C. ALLEN, WEST MERIDEN.

SIZE. 200 acres.

SOIL. Gravelly loam.

BUILDINGS. A convenient dwelling-house, with out houses and fences, all in the very best order; a large, old barn, and sheds, and an elegant new barn, built on heavy stone foundations, with grouted floors, cellars and mangers, at a cost of $2,500.

MANURES. No extraordinary pains to save or make manures; a rich deposit of muck near, which Mr. Allen intends soon to use. He has applied to his land this year, 175 loads of manure, 14 tons plaster, 450 bushels bone dust.

CROPS. 60 tons hay, 6 acres corn, 10 acres rye, 14 acres oats, 18 acres buckwheat.

STOCK. Very handsome, all bright red, mostly of what are called native breeds, *viz.*, 6 yoke oxen, 10 cows, 19 head young stock, 1 bull, 2 horses, 6 hogs.

LABOR. Employs two men in winter, and five in summer, who are partly occupied in the care of the public roads.

FRUIT. Five hundred apple trees. Grafted in 1853, 2,200 apple stocks; 1854, 2,500 apple stocks.

This farm is beautifully situated, on an elevation, a little south of the Blue Hills, in Berlin, and commands fine views in every direction. It has been occupied by Mr. Allen through a long life. Originally, it was almost literally covered with stones. Old walls and vast deposits of stones, testify to Mr. A's perseverance and desire for improvement. Recently, his son, Mr. —— Allen, has taken the management, and entered into a thorough and systematic course of improvement and cultivation. Large fields have been entirely cleared, and newly laid down,—tumbling and crooked walls have been rebuilt and made straight and strong. Every field is thus to be cleared, and every wall rebuilt. Five hundred loads of small stone were hauled off the past year, and partly buried in the roads, or otherwise disposed of.

So much is being done in improvements, that the sales do not yet bear a due proportion to the expense of culture. The farm will soon,

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however, be brought into such good condition as can not fail to produce satisfactory returns.

FARM OF N. A. LINSLEY, WEST MERIDEN.

SIZE. 190 acres,—160 in use.

SOIL. Sandy loam.

BUILDINGS. A comfortable looking dwelling-house. Barns and sheds not in very good order.

FENCES. Not generally in very good order.

STOCK. About 30 head of cattle, mostly Devon; some very handsome. Winters 25 head.

CROPS. 12 acres corn and potatoes,—corn looked finely; 5 acres rye, 3 acres oats, 50 tons hay.

MANURES. No good system for saving or making it.

Circumstances prevented a very thorough examination of this farm, nor, indeed, did it seem necessary, as it was obvious that although the proprietor had entered with spirit into an improved system of cultivation, the farm had not yet reached such a point as would entitle it to be considered a premium one.

FARM OF DANIEL W. SHARES, HAMDEN.

SIZE. 58 acres of cultivated land, and 16 acres salt meadow.

SOIL. The upland, 42 acres, a sandy loam.

BUILDINGS. A good dwelling-house, out-buildings respectable, but not in the best order.

FENCES. In good order.

CROPS. Hay, 70 tons, including salt meadow, corn, 1½ acres, turnips, 1½ acres, pumpkins, ¾ of an acre, oats, 1½ acres, wheat, 1 acre, rye, 2½ acres, potatoes, 6 acres. Total sales, besides feeding family, $992.22.

LABOR. Performed mostly by himself and his three sons,—ages, 12, 15 and 18 years. Amount paid out, $50.

FRUIT. 228 bearing apple trees, and 40 other fruit trees.

MANURES. No special interest in saving or making manures.

Mr. Shares' farm and management, on the whole, is very commendable, exhibiting evidence of prudence, industry and skill. Some want of neatness and good order visible; weeds not cut in roads, and fields along the fences, tools not in good order. Mr. Shares has used in the cultivation of his corn and potatoes, two implements, of which he is the inventor and manufacturer, which appear well worthy

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of attention. His corn, after planting, was hoed entirely, and his potatoes were covered and hoed with these implements. An acre of potatoes was hoed three times in six hours and six minutes. The fields, when seen by the committee, were clean and in good order. Labor equal to one day is all that is required on an acre of potatoes.

FARM OF HENRY HUBBELL, HAMDEN.

Known as the Goodrich Farm, two miles from New Haven; occupied on a lease of twelve years, five years unexpired.

SIZE. 150 acres, exclusive of woodland.

SOIL. Mostly a sandy loam.

BUILDINGS. A comfortable two story dwelling-house. Large, convenient barn and sheds, all well painted; an unfailing supply of water in barn-yard; a fine root cellar under barn.

TOOLS AND IMPLEMENTS. All housed and in good order.

FENCES. All new and straight, partly post and rail, partly stone. When lease commenced, fences mostly gone.

DRAINS. 350 rods of French drains, made since lease commenced; also some surface drains. Water partly conducted to a tank on the hill-side, and then by lead-pipe about 100 rods to house and barn.

FIELDS. All laid out regularly, in size from two to eight acres, free from weeds and bushes, clean and in good order; one lot now in process of clearing.

MANURES. No extraordinary measures for making or saving manure; a large deposit of muck on farm not yet used; uses guano, and prefers it to barn-yard manure for corn, but could not tell as to permanent effects.

CROPS. Mr. Hubbell pursues a systematic rotation of crops, a six years' course, *viz.*, 1st year, corn, yard manure broadcast, or guano. 2d year, potatoes, without manure. 3d year, rye, seeded down with 4 quarts clover, and 4 quarts herds-grass. 4th, 5th, and 6th years, grass. Entire particulars of crops not ascertained. Corn, 8 acres, *viz.*, 6½ acres, manure from barn-yard, 1½ with guano. Potatoes, 4½ acres. A piece of about 3 acres of land lying over this year, in order to a more equal division. The corn and potatoes both entirely hoed and cultivated with Shares' improved machines already referred to, all clean, in good order. Hay, sold 14 tons, at $15.

FRUIT. 80 bearing apple trees.

CATTLE. 23 head.

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LABOR. Pays for help, about $50.

FAMILY. This consists of nine persons.

RESULTS. The proceeds of this farm, after paying rent and $50 for help, in 1854, amounted to $1,000; 1855, estimated as about the same,—doubled since lease commenced.

Mr. Hubbell presents an excellent example, in most respects, of judicious, intelligent farming, and more especially to tenant farmers. Seven years ago this farm was little better than an open common, being almost without fences, and exhausted. The soil is mostly naturally light,—in many places wet, and in some parts stony. The fences are now new and straight,—the water and stones have mostly disappeared, and the barren fields are covered with crops and verdure. Instead of pursuing the skinning process, so common with tenants, and so discouraging to proprietors, he has found his true interest in improving everything as much as possible. By a liberal use of manure, and a judicious and systematic rotation of crops, the soil is constantly growing better. At the expiration of the lease, the farm will have nearly doubled in value, while Mr. Hubbell will have realized a handsome remuneration for his labors.

There is nothing in Mr. Hubbell's situation that gives him any advantage over other farmers; yet how many there are in the State with farms of 100 to 150 acres, of which they are the owners, with better soil and equal advantages for market, who barely make the ends meet at the end of the year, if indeed they do not fall in arrears.

FARM OF WILLIAM A. BROOKS, CHESHIRE.

SIZE. 81 acres of improved land,—a pasture of 57 acres, three or four miles from homestead.

SOIL. A gravelly loam.

BUILDINGS.—A neat, plain, well-arranged dwelling-house; hewed the stone for underpinning and door-sills himself. Neat, substantial fences around yard and garden, built mostly by himself. Barns and sheds respectable; arrangements for saving manures imperfect.

FENCES. In good order.

WEEDS AND BUSHES. None in fields or around fences.

HELP. Hires one man nine months. Occasional labor more than paid for by work done off from farm. Total cost of labor $150 a year.

STOCK. 20 head of cattle in summer, 25 head in winter. Buys

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two and three years old steers, matches and breaks for work. Keeps one-third more stock than twelve years ago.

FRUIT. 250 grafted apple trees, mostly winter.

MANURE. Usually puts 50 to 75 loads muck in yard annually; uses ashes freely, 3 to 4 tons plaster annually, also 30 to 40 bushels bone-dust on grass land, costs 45 cents a bushel; applies 15 bushels to the acre; thinks its effects visible on grass four years; considers it better than guano; thinks the fertility of soil not maintained by using special manures on ploughed crops; has used 300 lbs. guano per acre for turnips, and 250 lbs. for wheat; thinks it will not pay at present prices for wheat.

CROPS. Hay, 50 tons, worth $12 at barn. Corn and potatoes, 7 acres, the corn on an old pasture, hitherto unproductive; ploughed in a light dressing of long manure, top dressed with guano and plaster, mixed with scrapings from under barn; a fine crop. Buckwheat, 1 acre. Carrots, ¼ of an acre. Cabbages, ¼ of an acre. Turnips, 2 acres,—Aberdeen and Swedish; Swedish in drills, Aberdeen broadcast; has raised 176 bushels corn on 143 rods of ground; two bushels produce 73 lbs. shelled corn; 5½ days work in planting and hoeing. Next year, on same place, 800 bushels Aberdeen turnips, of which, sold 500 bushels for $125, and fed out the rest.

ROTATION. After manuring 20 cords to the acre, and ploughing 8 inches deep, plants corn; then roots, then grains, then five years in grass; top dressing when necessary. Mr. Brooks thinks highly of deep ploughing; thinks it greatly promotes continued fertility, and prevents evil effects of drought.

RESULTS. Sales, over what is consumed by family, in 1853, $1,037; in 1854, $1,000.

FARM OF T. S. GOLD, WEST CORNWALL.

SIZE. 350 acres, *viz.*, 90 in mowing, 24 ploughed, 130 pasture, 106 wood—350.

SOIL. A gravelly loam, rather moist; numerous springs, and rich deposits of muck.

BUILDINGS. Four dwelling-houses, *viz.*, one large and convenient for his family and a school of 20 boarders; one old mansion-house, for farm hands and dairy; and two for tenants, new and tasteful. Eight barns with sheds, and good supply of water to each,—arrangements for saving manure in all imperfect. One cold grapery, 60 feet

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long, with 900 feet of glass roof. Has laid 150,000 shingles in ten years, and 1,950 feet of tin roof.

FENCES. Walls originally built rudely and irregularly; 1,050 rods of heavy, first-rate wall has been re-built in six years, in straight lines, being half a mile a year; intends to re-build all his walls at this rate.

DRAINS. 175 rods blind or French drains; 220 rods surface ditches; 120 rods aqueduct.

WEEDS and BUSHES. Tolerably clean.

MANURES. 100 to 200 loads of muck carted annually to yards; no special manure used; barn-yards not well adapted to save mauure; much washed away by rains.

LABOR. Total amount paid, including dairy, $1,050; walls are built by regular hands.

STOCK. 3 horses; 10 oxen; 46 cows; 11 yearlings; 4 two years old; 1 bull; 11 calves; 100 sheep and lambs, mostly South Down. The whole equal to 80 or 90 head of cattle the year round.

The famous cow, "Cream Pot," formerly owned by Mr. Jacques, near Boston, is now owned by Dr. Gold; 20 years old and still in good condition.

FRUIT. 360 young grafted apple trees; 140 pear, 130 plum and cherry, many of the choicest varieties, in full bearing—no blight nor curculio; 200 young shade trees.

CROPS. 180 to 190 tons hay; 6 acres corn; 2 acres potatoes; 1 acre turnips; 1½ acre wheat; 6 acres oats; 3 acres rye; 3½ acres buckwheat; 1 acre garden.

SALES. 7 to 10,000 lbs. cheese annually.

10 to 1,500	do.	butter do.
Pork, $50 to $200,		do.
Beef, $100 to $400,		do.
Wool, $50 to $100,		do.

Forty persons are fed wholly from the farm, except flour and some kinds of groceries. Twenty of these are boarders, Dr. Gold and his son Theodore having, for several years, kept an agricultural and classical school for boys.

This farm is on an elevation, sloping to the south, commanding extensive views in every direction; northerly, Salisbury, Mount Washington, West Stockbridge, and the distant hills of Berkshire; east, Goshen; southerly, Warren and Kent; and westerly, Sharon and Eastern New York, to the Catskill mountains, the tops of which may be distinctly seen from the house. The soil is of the most fertile

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character, the pastures being covered with a thick growth of white clover, on the 28th of August, when the committee saw them. The father of Dr. Gold purchased the property some sixty or seventy years ago. It was then almost literally covered with boulders and other stones. He died many years since, after having made, for the period in which he lived, great improvements. Most of the land was then in the hands of tenants, for from ten to twenty-five years, until twelve years since, when the doctor took possession, and found everything in the worst possible condition.

It will be seen from the statements above, that from the manner in which the products of the farm are disposed of, the committee can not arrive at actual results. A great deal of labor, too, is devoted to improvements. Dr. Gold and his son are both liberally educated men, of enlarged views, who have engaged in agricultural pursuits with a zeal, perseverance and public spirit, which entitles them to the thanks of all friends of agriculture. The doctor has had large experience, and is a diligent reader and observer, and the son, to equal zeal and diligence, adds an acquaintance with those branches of science particularly connected with agriculture. Everything around them, such as roads, bridges, school-houses, &c., gives evidence of their public spirit. When the system of improvements now in progress shall have been more nearly carried out, with improved barns, outhouses and modes of saving manure, and everything reduced to system and order, as will undoubtedly be the case, "*Cream Hill Farm*" will be one of the most productive, as it is naturally one of the most fertile and beautifully situated in the State.

IMPROVED ROCKY LAND AND RECLAIMED SWAMP.

T. L. HART, WEST CORNWALL.

Two acres improved rocky land, around dwelling-house—improvements begun five years since—the ground then covered with rocks; such as could be loosened were removed; the fast ones blasted off to twelve or eighteen inches below the surface. One rock sixteen feet, and another ten feet in diameter, were thus blasted. Heavy walls have been built almost entirely around the piece, in a workmanlike way—the front wall particularly handsome. Not a stone now on the ground, and the whole covered with fruit-trees and luxuriant crops. Dutton corn ten and twelve feet high. Work done mostly by himself and boy.

Four acres reclaimed swamp; commenced seven years ago. First

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year, a ditch four or five feet deep all around it; second and third years lying still, to let the water run off; fourth year commenced clearing; fifth, sixth and seventh years, finished clearing, grubbing, burning, leveling, and laying down to grass. This year, cut two and a half tons good hay to the acre. The whole now perfectly dry, clean and smooth as a lawn. Another portion of the same swamp is undergoing the same process.

Cost, *viz.:*	Ditching, $70, half chargeable to adjoining land,	$35.00
	Clearing and burning, - - -	60.00
		$95.00

Or $23.75 per acre.

The muck is considered by Mr. Hart as fully paying for ditching, which reduces the cost to $15 per acre. When the farm was purchased, $40 was deducted for this swamp—now worth $100 per acre.

Mr. Hart did not offer his farm for premium. The committee, however, deem his example so good a one, that they can not pass it by without notice. He began twenty years ago, worth nothing. He now owns one hundred and twenty acres of land, with a good, new two story house, completely finished from cellar to garret; the house within a model of neatness; dairy-room in second story, filled with as fine cheeses as any seen in the State. Mr. Hart is alive to all improvements; the wash and manure from house and barn all absorbed by muck under cover; keeps full blood Cotswold sheep; does a little in raising good horses; keeps no help, in doors or out; farm constantly improving; sales beyond support of family, $800. Altogether, Mr. Hart presents a fine specimen of an enterprising, intelligent farmer, and a good citizen.

IMPROVED ROCKY LAND.

JASPER P. BREWSTER, WEST CORNWALL.

Four acres improved rocky land; a common four years ago, covered with rocks and stones, and very wet. The following work has been done, *viz.:*

90 rods of wall, average 8 feet wide at bottom.

52 rods of drain, average 10 feet wide, 5½ feet deep, filled to within 18 inches of surface, and covered.

150 feet do. 4 feet deep, 3 feet wide, filled with small stones to within 18 inches.

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240 feet cellar wall, 6 feet wide, 7 feet high.

4 rocks only left on ground, and these are blasted and ready to be hauled off.

50 rods of wall to be built to surround the piece; stone half drawn, and strung for the purpose.

The walls are all built in the most workmanlike manner. The main work was done by himself and boys at odd times, and he thinks the crops have already paid the cost.

Mr. Brewster's whole farm is 140 acres. The committee had not time to examine it particularly. The dwelling-house appeared neat and comfortable; barns and sheds in all respects convenient and in good order.

IMPROVED ROCKY LAND.

E. D. PRATT, WEST CORNWALL.

Two acres, entirely unimproved eight years since, covered with rocks and hard-hack; now fifty rods of heavy wall, and producing a fine yield of best grass and other crops.

Mr. Pratt is also entitled to be placed amongst our enterprising farmers. He is alive to the spirit of improvement. Dwelling-house, barns, fences, and general arrangements, indicate industry and enterprise.

When passing through West Cornwall, the committee were invited to visit the farm of Mr. Daniel Leet Rogers, not entered for premium. It contains 117 acres, originally abounding in rocks and stones, as the walls testify. The walls were at first built without much care and crooked. They are now being re-built in the best manner, mostly by himself. Many of the fields are now without stone, and can not be surpassed in richness and beauty. The best piece of rough wall seen by the committee, was along the road near his house. Keeps 30 to 35 head of cattle; saw a fine Devon bull and a beautiful pair of four years old oxen. The barns and outhouses neat and convenient, and well arranged to preserve manure. Altogether, the farm of Mr. R. presents as good an example of economy and industry, as any seen by the committee.

The attention of the committee was also directed to a beautiful improvement of a tamarack swamp, by Mr. H. Baldwin. Eight or ten acres, formerly almost an impenetrable and impervious swamp,

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has been, with the exception of a small piece in the center, completely reclaimed, and is now covered with rich grass.

IMPROVED ROCKY LAND.

GEORGE WILLARD, BOZRAHVILLE.

Two acres. This piece lies at the foot of a hill, one hundred feet high. When purchased, it was in a wild state, covered with maples, acacias, &c. A small house stood on it, used by the Methodists as a place of worship. Mr. Willard converted it into a comfortable dwelling; has made some surface drains, and has the land mostly in corn, potatoes and grass. The improvements, though not completed, are praiseworthy.

RECLAIMED SWAMP LAND.

TIMOTHY C. LEWIS, FARMINGTON.

The improvement made by Mr. Lewis is very much of the character of that by Mr. Hart, already described, at West Cornwall, and the process of clearing, &c., also very similar. Mr. Lewis, however, has not yet finished his work. There are fine crops on his land, particularly of corn; but there are some stumps and bushes, and none of it is yet in the finished and complete state exhibited by Mr. Hart. The example of Mr. Lewis, however, is well worthy of imitation, showing as it does, that our worst and most unpromising swamps may be reclaimed, and that ample remuneration will follow. The whole piece, about thirty-five acres, when laid down to grass, will present one of the finest meadows in the State.

The committee can not close their report without adding a few words expressive of the great gratification they have had in witnessing the improved agriculture to be met with in various parts of the State. Did time and space permit, they would like to dwell a little on the farms of Brooklyn, Pomfret and Woodstock. Some of these are two to four hundred acres in extent and in a high state of improvement. The peculiar features of these farms consist in *fine stone fences, regular clean fields, barns adapted to save manure*, and *almost invariably*, a piece of *corn for fodder*. Cheese seems to be the principal product at present, and the committee examined some fine dairies. Much attention is paid also to improved stock. The farm of Mr. Giles, of Woodstock, exhibits improvements on a large

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scale, and a greater variety of foreign breeds of cattle, sheep, swine, poultry, &c., than can probably be met with elsewhere in the country.

In the western part of the State, particularly in Goshen, the committee saw some noble farms, and large dairies. Mr. Lewis M. Norton, of Goshen, makes 12,000 pine-apple cheeses annually, from curd furnished him by adjoining farmers.

It is worthy of remark, that the most hilly and rocky parts of the State present the finest examples of industry and enterprise.

On the whole, the committee think there is great cause for congratulation amongst the friends of agriculture, in view of the improvements everywhere visible throughout the State. It is plain that a new era has dawned. There can be no doubt that this new impetus has in a good degree arisen from the efforts of agricultural societies and the circulation of agricultural papers and other publications. Our State now surpasses any other in New England, in proportion to its population, in the value of its agricultural productions. Its surface is rugged, but its soil is good, and it has some advantages of climate over other New England States. It is also favorably situated for market, being near to the manufacturing States of Massachusetts and Rhode Island on one side, and accessible to the great market of New York from its remotest district.

It is greatly to be desired that the sons of Connecticut, as they accumulate capital, shall to a much greater extent than heretofore, invest it in improving their native hills and valleys, and thus contribute, by superiority of cultivation, to the attainment and maintenance of an influence, to which her limited territory and small population could never entitle her.

The committee award the following premiums, *viz.*

On Farms of 100 *Acres and upwards.*

First Premium. Not awarded, no farm having been entered, in the opinion of the committee, in a sufficiently complete state of cultivation and improvement, to be entitled to the Society's *first* premium.

Second Premium. To Henry Hubbell, of Hamden, New Haven County, - - - - - $35

Third Premium. To Doct. T. S. Gold, of West Cornwall, Litchfield County, - - - - 20

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On Farms of 40 *Acres and not over* 100 *Acres.*

First Premium. Not awarded.
Second Premium, To William A. Brooks, of Cheshire, New Haven County, - - - - $25
Third Premium. Not awarded.

For most successful Reclamation of Swamp Land, not less than One Acre.

To T. L. Hart, of West Cornwall, for best specimen, containing four acres, - - - - - $10

For best specimen of reclamation of Sand Barrens—none offered.

For best specimen of Improved Rocky Land, not less than two acres. To J. P. Brewster, of West Cornwall, for best piece, containing 3¾ acres, - - $10

The whole amount at the disposal of your committee not having been appropriated, they recommend the following gratuities, *viz.:*

To Thomas Gates, of Hartford, for good cultivation, and for remarkable success in feeding, - - $25
To John M. Johnson, of South Windsor, for good cultivation, and for enterprise and industry in reclaiming 130 acres of unproductive, sandy and swamp land, 20
To E. C. Allen, of West Meriden, for extensive improvement on his farm, - - - - 15
To R. Linsley, of West Meriden, for reclamation of nine acres, partly swamp and partly upland, - - 15

All of which is respectfully submitted.

JOHN T. NORTON, FARMINGTON.
MOSES LYMAN, GOSHEN.
ALBERT DAY, BROOKLYN.
} *Committee.*

COMMITTEE NO. 72.—FIELD CROPS.

Reports on Field Crops, passed upon by the Executive Committee, January 1st, 1856. The following condensed reports prop-

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erly authenticated were presented by the Secretary, and premiums awarded.

T. S. Gold, of West Cornwall, reports the cultivation of one acre, fifty-eight rods of loamy soil, in spring wheat. The land was in clover in 1852, under ruta bagas and potatoes in 1853, and bearing the same, with a part in carrots, in 1854. Twenty-five loads of barn-yard manure and two loads of tanner's refuse, coal dust, &c., were applied on the roots the two previous years. The ground that had been under potatoes before, was dressed the present year with two loads of tanner's refuse, consisting of hair, hide and lime. Gypsum was sowed over the whole about one bushel. The land was twice plowed, April 23d and 27th. The wheat used was Java wheat; it was soaked in brine for one hour, and rolled in slaked lime, sowed broadcast and harrowed in, nearly three bushels being used. Harvested August 13th, 18th, 27½ bushels being the yield; measured in a half bushel, 60 lbs. to the bushel, worth $2.50 per bushel; the straw pays for thrashing. Cost of cultivation about $14, *viz.*, 5½ days sowing and 6 days harvesting, as the weather was threatening, and it was reaped. In reality, nearly the whole produce was on one acre, say perhaps 24 bushels, for a portion of the hill was rough or steep hillside, and was not manured; a part was shaded.

Signed, T. S. Gold.

A premium of $5 was awarded on the above.

B. W. Coe, of Middletown, reports the cultivation of a crop of buckwheat on one acre of gravelly loam, which had been in pasture, and without manure, for the three previous years. Eight bushels of ground bone were used on the crop. The land was plowed twice, once in the second week of May, and again the last week in June. It was sowed broadcast with one bushel of common seed, on the 30th of June. Harvested the last week of September, and yielded twenty-six bushels, weighing 52 lbs. to the bushel. The cost for the use of man and team for 2½ days was $5.

Signed, B. W. Coe.

A premium of $3 was awarded for the above.

J. P. Brewster, of West Cornwall, reports a crop of oats as follows: Nature of soil, gravel loam. In fall of 1853, I removed all of the rocks and stones from this piece of land of four acres, at cost of $40 per acre. In the Spring of 1854, I applied forty loads of barn-yard manure to the acre, (about ninety feet per load,) and planted to

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corn. April 16th, 1855, I commenced to plow said ground for oats; I plowed the ground twice, nine inches deep, and harrowed with iron tooth harrow, then sowed broadcast, four and one-half bushels of white oats to the acre; then harrowed twice and sowed twenty quarts of herds-grass and clover, in equal parts, then bushed in the seed. Harvested in August, from nine-tenths of one acre ground, measured by T. S. Gold, ninety-two bushels of oats. I staked out this piece, thinking that there was one acre or more. I had a piece of lodged oats adjoining this piece measured, that was put on a scaffold separate from the rest, making one acre. The yield from the acre was 101 bushels, measured in the half bushel. I think that there is three acres of this piece of oats that will yield 100 bushels of oats per acre. The field lies adjoining my home-barn, and has been mowed for six years previous to 1855.

Attest, JASPER P. BREWSTER.

Personally appeared, Jasper P. Brewster, signer of the above statement, and made oath to the truth of the same.

GEORGE WHEATON, *Justice of the Peace.*

December 31st, 1855.

We hereby certify that we assisted in measuring the land from which the above described crop was taken, and also assisted in measuring the produce of said land, and that it contained one acre and no more, and the yield was one hundred and one bushels.

Attest, NATHAN G. COGSWELL, } *Indifferent*
WM. C. COGSWELL, } *Persons.*

GEORGE WHEATON, *Justice of the Peace.*

The above being the only entry made in competition on oat crops, the first premium of $8 is awarded by the Executive Committee, evidence aside from the record having come before them to show that a large crop of oats was raised by Mr. Brewster.

Nathan Hart, Jr., of West Cornwall, reports the cultivation of one-fourth of an acre of carrots on a deep loam, resting upon a tenacious subsoil, which for the previous three years had been in grass, corn and beets. This land had formerly been an orchard, and probably had never been dressed with manure until 1853, when it was cleared of trees and stones, and dressed with 35 bushels of ashes, composted with 20 loads of muck per acre, and in 1854, 16 loads of muck, composted in the hog-pen, per acre. The present year, 400 lbs. of guano

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per acre was plowed in, eight to ten inches deep. On the 26th of May, it was plowed and thoroughly harrowed. On the 28th of May it was planted with half a pound of ordinary carrot seed, without preparation, in rows fourteen inches apart, with a hand seed drill. Hoed the first time June 23d, and at odd times thereafter, until the 25th of August, when it was spaded between the rows to the depth of eight or ten inches and thinned to three or four inches. The crop was harvested the first week of November, and yielded 182 bushels, worth 25 cents per bushel, making $45.50; measured in a 1½ bushel basket, and weighed 46 lbs. per bushel. The labor was as follows:

Half day with team, - - - - -	$1.00
Sowing, - - - - - -	.50
Hoeing, 6 days, - - - - -	6.00
Spading, - - - - - -	2.00
Harvesting, - - - - - -	3.50
	$13.00

Signed, NATHAN HART, JR.

The second premium of $5 was awarded Mr. Hart, for the above stated crops.

T. S. Gold cultivated 658 rods of loamy soil, full of boulders and small stones, most of which were removed, in ruta bagas. The land had been in pasture, no manure having been applied for the three previous years. Twenty-five loads per acre of common barn-yard manure, mostly from the cow-stables, with two loads of tanner's refuse, were plowed in. Twenty bushels charcoal dust, hen manure, home-made super-phosphate and plaster, was strewed between the rows, about the middle of July, and hoed in. The land was plowed once, June 18th. About three-quarters of a pound of seed was sowed, June 21st, with a drill barrow, two rows, one foot apart, then a space of two and one-half feet. The variety was the common red and green topped, with two rows of ashcroft Swedes. The seed had no preparation. The cultivator was passed through the broad spaces as soon as they were up, and again soon after. They were hoed twice; at the second hoeing, they were thinned to eight or ten inches. The few weeds that appeared afterward were pulled up. The crop was harvested, November 17th and 19th, and measured 380 bushels, in a basket and cart; worth, perhaps, ten cents per bushel, for feeding. This is at the rate of 922 bushels per acre. The roots were very large, smooth and heavy, many weighing 10 lbs. each. A larger

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crop may be obtained by having them nearer together, but the cost will be greater and the roots smaller. The labor on this crop was twenty days at eighty cents per day, making $16.

T. S. GOLD.

A premium of $5 was awarded Mr. Gold, on the above stated crop.

The following report was ordered to be printed in the Transactions of the Society, although owing to informality of entry, it could not be considered for a premium.

NEW BRITAIN, Dec. 14, 1855.

Account of crops of Corn and Potatoes, raised by John S. Whittlesey.

CORN. One acre and 71 rods, green sward, manured with 120 horse-cart loads of stable manure, plowed flat, eight inches deep, well harrowed, and carefully marked for rows each way, three by three and a half feet. A single handful of the following compost was put in each hill: 6 parts loam, 2 parts night-soil, 1 part dry ashes, and 1 part fresh slacked lime; the night-soil and loam composted the year previous. Variety of corn, long eight-rowed, planted dry, with hand-planter, May 16th. In a part of the field only, the compost was covered before planting. All came up well, and it was immediately dressed with ashes and gypsum, equal parts. At the first and second hoeing, the cultivator was used, and at the third, a small plow. At the second hoeing, three and four stalks only were left in a hill.

The corn was cut up and stacked, and then carted to the barn before husking. The yield by actual measurement, is 245 bushels of ears, each bushel containing seventeen quarts of corn. This, if I figure rightly, is a fraction over ninety bushels of shelled corn to the acre.

The cost per acre, is as follows, estimating labor of man and beast at $1 per day:

Use of land,	$12.00
Half of eighty loads of manure, spread,	40.00
Plowing, $3; harrowing and marking, $3,	6.00
Compost, and dropping in hill,	5.00
Planting, $1; top-dressing, $2,	3.00
Hoeing three times, $10; cutting and stacking, $2,	12.00
Carting, $3; husking and storing, $4,	7.00
Shelling and fanning, $3; carting to market, $2,	5.00
	$90.00

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Cr.

Ninety bushels of corn, $1, -	$90.00
Two tons of stalks and husks, -	12.00
One cord of cobs, - - -	3.00
	$105.00

POTATOES.

One and one-fourth acre. Land stocked with timothy and clover, mowed one year and then winter-killed. Plowed once and harrowed lightly. Planted April 25–27, with early June potatoes, part large and part small seed, mostly the latter. Marked for drills three feet apart; seed fourteen to twenty inches apart; manured in drill with compost of stable manure and muck, and covered with small plow. Plowed and hoed three times, and top-dressed twice with ashes and gypsum; sifted carefully on the tops when wet.

Yield, 270 bushels, all sound.

Cost per Acre.

Use of land, - - - - -	$12.00
12 bushels of seed, - - - - -	10.00
2 cords of manure, $5; planting, $5, - -	10.00
Hoeing three times, $10; top dressing, $4, - -	14.00
Pulling and digging, $10; carting to market, $5, -	15.00
	$61.00

Cr.

216 bushels of potatoes, 42 cts., - - -	$90.72

The difference in results from large and small seed was manifest. Two rows planted with large seed, gave twelve bushels, ten and a half of which were of good size; while two rows adjoining, planted with small seed, and otherwise treated alike, gave eight bushels, only six of which were of good size. In both cases the seed was uncut.

By small seed, I do not mean *very* small, but such as farmers are much in the habit of planting.

I am aware that I have estimated the cost, particularly in the case of the corn, considerably higher than that generally allowed. But having hired most of the labor in these two fields, I know very nearly what they have cost. Farmers usually estimate their land at little or nothing; their team-work ditto, and their own labor at much

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less than others would charge them by the day. This is not as it should be.

Some will think my price for use of land too high. I could not hire land of the same quality in this region for twice that. I rented land in the same field with the potatoes, for $28 per acre.

I have carried out prices in round numbers, which varies a little in some cases from the actual account, but makes little difference in footing up.

Yours truly,

JOHN S. WHITTLESEY.

COMMITTEE NO. 73.—A.

Your Committee beg leave to report, that they have attended to the duties assigned them, and made the following awards:

For the best sample Slide Wrenches, Hotchkiss & Sons, Sharon, - - - - Silver Medal.
Case splendid Edge Tools, Collins & Co., Collinsville, Gold Medal.
do. Rules and Try Squares, S. A. Jones, Hartford, Diploma.
do. Bed Screws and Wrenches, American Bed Screw Company, New Britain, - - - Diploma.
do. Box-wood Rules, A. Stanley & Co., New Britain, Silver Medal.
do. Plumbs and Levels, Hall & Knapp, do. Diploma.
do. Try Squares, do. do. do. Silver Medal.
do. Saddlery Hardware, O. B. North & Co., do. Gold Medal.
2 cases and 9 cards Builders' Hardware, Russell & Erwin Manufacturing Co., New Britain, Gold Medal.
Builders' and Cabinet Hardware, Peck & Walter Manufacturing Co., New Britain, - - Gold Medal.
For best Iron Tongs, Stanley Works, New Britain, Silver Medal.
do. Iron Bolts, F. T. Stanley, do. do.
do. samples of Buckles, American Buckle Co., Middletown, - - - - - Diploma.
do. Wire Rein Snaps, R. M. Treat, South Farms, do.
do. Steel Stamps, R. Olmsted, Winsted, Silver Medal.
do. pair Coach Lamps, White & Bradley, Bridgeport, Diploma.
do. specimen German Silver Wire, Benedict & Burnham Manufacturing Co., Waterbury, Silver Medal.

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Specimens of Refined and Pure Nickel, Benedict & Burnham Manufacturing Co., Waterbury, Silver Medal.
Case Edge Tools and Shears, G. W. Way, Hartford, Diploma.
A splendid case Shears, containing fifty varieties, of the most perfect finish and workmanship, manufactured by the American Shear Co., Hotchkissville, Gold Medal.
For best Sash Fasteners, M. Judd & Co., New Britain, Diploma.
do. specimen Artificial Legs, Palmer & Co., Springfield, Mass., - - - - Gold Medal.
do. specimens Ground Salt, N. Lyman, Hartford, Diploma.
Parker's Patent Blind Hinge Fastener, C. S. Parker, do.
For best case House-bell Trimmings, C. W. Bradley, Hartford, - - - - - do.
Case assorted Cutlery, Pocket and Table, W. W. Morton, Silver Medal.
For best exhibition Surgeons' Splints, Benjamin Welch, Lakeville, - - - - Gold Medal.
do. Glass Enameled Door Plates, S. A. Bunnell, Seymour, - - - - Silver Medal.
do. case Pocket Cutlery, Empire Knife Co., J. P. Snow, Hartford, - - - Gold Medal.
Sample-Card Buttons, Steel & Johnson, Waterbury, Silver Medal.
Case Galvanized Knives and Forks, Chase Hill, N. Haven, do.

All of which is respectfully submitted.

HERMAN BALDWIN.
HORACE PITKIN.
EDWARD TERRELL.

COMMITTEE NO. 73.—B.

The Committee on Miscellaneous Articles, B., report the awards following:

To George Buck, Hartford, best Flavoring extracts, Silver Medal.
Dr. J. Kendall, Waterbury, best Water-proof Leather Preservative, - - - - do.
D. S. Dewey, Hartford, best Varnish and Oil, do.
Wm. Moseley, do. Bird Cages, - Diploma.
T. C. Weildon, do. Hair Work, Silver Medal.

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To E. C. Thompson, Hartford, best Confectionary, - Diploma.
E. Tucker, Hartford, best Fancy Paper Boxes, Silver Medal.
E. L. Holcomb, Granby, best specimen Stuffed Birds, Diploma.
Harvey Goodwin, West Hartford, best Flower Pots, do.
Sugden & Co., Hartford, best Live Geese Feathers, do.
Silliman, Seymour & Co., Bridgeport, Folding Umbrella, Silver Medal.
J. Davenport, Hartford, best Hard Soap, - - Diploma.
T. C. Taylor, Philadelphia, best Soap made without grease, - - - - - - do.

All of which is respectfully submitted.

H. HAMMOND.
G. W. BENEDICT.
WM. HUMES.

COMMITTEE NO. 73.—C.

The Committee to whom were presented Miscellaneous Articles, No. 73, Letter C., have made an examination of the same, and beg leave to make the following report:

A. L. Finch. Assorted lot of Horse-Collar Hames. We consider them a substantial and well wrought article, and we recommend a Diploma.

Royal Prouty. Specimens of silk and cotton covered Wire. We recommend an award of $2.

R. S. Jennings. Patent Whip Sockets. We recommend $2.

Fisher & Company. One case of Furnishing Goods. These goods not being of their own manufacture, do not come within the rule, and we can only say that we consider them a very fine lot of goods.

Bronson Brothers, Waterbury. Ladies' Reticules, Metallic Memorandums, Book Rests. We recommend them to the attention of those in want of such goods, and award a Diploma.

Bronson Brothers. Blank Books. These are superior specimens and we award a Gold Medal.

J. W. Arthur. One card Burnishing Tools. A very good article of the kind.

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[illegible] Lyman & Lyon of Middlefield. For a [illegible] good article.

[illegible] Specimens of Lard Oil for Burning. We consider [illegible] very fine specimens and award a

[illegible] Specimens of Black and Varnish Burning Fluid. We consider [illegible] specimens and award a

[illegible] Varnish. We consider [illegible] Metal and Varnish [illegible] We award a Diploma.

For the second [illegible] of Lyman Wood, grown in Berlin & Meriden of Long Island, [illegible] and specimen of Oak & Chestnut of Enfield, we consider a great curiosity and award a

[illegible] Varnish. Cheap for sealing cans. We consider them a very useful article and award a

Fairbanks, Bronson & Co. Specimens of Safety Fuse. They are well made and we award a

A. Platt & Son. Specimen of Seamless Zinc Pipe. We are of opinion that it is a great improvement over lead pipe, and we award a Silver Medal.

Calhoun Steam Printing Co. Specimen of Card Printing. We award a

Thomas Kinsella. For a fine specimen of Refrigerator. We award a

Hartman Bradley. Wood-Turning Lathe and Machine for cleaning Cloves. We consider them very useful and valuable articles, and award a Silver Medal.

Specimen of Heavy Book Paper. We consider this worthy of a trial.

Specimens by David Lyman, of Middlefield.

Respectfully submitted,

SAMUEL D. NORTHWAY, *Chairman.*
EZRA DEAN.
O. J. WOLCOTT.

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REPORT

OF

ANNUAL MEETING.

The Annual Meeting of the Connecticut State Agricultural Society was held at Brewster's Hall, in the city of New Haven, on Wednesday, January 2, 1856, at 10 o'clock, A. M. In the absence of the President, Hon. Nathaniel B. Smith, of Woodbury, Vice-President, took the chair.

The following letter from the President was read:

Washington, Dec. 28th, 1855.

To the Members of the Connecticut State Agricultural Society:

Gentlemen:—On retiring from the Presidency of your Society, I regret to be compelled to add that I must also retire for a period from all active participation in its concerns. The change that has within the year past taken place in my employment, renders this necessary. But while my interest in the Society will survive all such changes, I hope the time is not very far distant, when I may return to an active coöperation in every measure which may tend to promote and perpetuate its prosperity.

On retiring from the responsible position in which your partiality has placed me, for the last two years, a few remarks upon the progress of the Society during the period referred to, and upon the importance of sustaining it, may not be deemed inappropriate.

Two years since when I first had the honor of being elected President of your Society, it was a matter of serious doubt in the minds of many, whether a respectable State Fair and Exhibition could be brought about, or even the Society itself be permanently sustained. An annual Fair and Exhibition was, however, resolved upon, many

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members at the time, as it appeared to me, voting the more willingly for the measure, from the fact that the responsibility would fall upon others.

This responsibility was confided to the Executive Committee of the Society, and by them, in a great measure, intrusted to a sub-committee of three.

The successful result of the first Fair and Exhibition is familiar to you all. I think I am justified in saying, that it far surpassed the general expectation.

At the close of the last annual meeting, the affairs generally of the Society, and the preparatory arrangements for the second annual Fair and Exhibition were confided to the same sub-committee. The results of their efforts will appear from the reports of the Corresponding Secretary and the Treasurer.

To me it appears, and I doubt not it will so appear to you all, that the question of the continuance of the Society, and of successfully sustaining an annual Fair and Exhibition, is settled in the affirmative beyond a doubt.

No State is more favorably situated to sustain such an institution, or can derive greater advantages from it, than Connecticut. Our territory, it is true, is comparatively of small extent; but embracing as it does every variety of soil and of manufactures, in a highly advanced state of improvement, and traversed by railroads in every direction, it is not difficult to concentrate an Exhibition at any point.

Examination, I think, will disclose the fact, that similar exhibitions in larger States are chiefly collected from a space no larger than Connecticut.

The mere pecuniary success of our annual Exhibitions, and the fact that they have thus far equalled, if not surpassed those of any other State, are of minor importance, compared with their beneficial influence upon all our industrial interests. In this point of view they not only demand our freest individual efforts in their behalf, but fully justify a continuance of that bounty of the State heretofore extended to them.

Already it is evident, that a new impulse has been given by them to the various branches of agricultural, manufacturing and mechanical industry, and we can not doubt, that if the Society is liberally sustained, its influence will, from year to year, be more and more apparent in the improvement of our farms, in the introduction and

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breeding of valuable stock, and in the development of manufacturing skill.

Let me then, gentlemen, urge upon you the importance of this Society, not only to each of you as individuals, but to the community at large in which a good Providence has cast our lot. Let us sustain it by our personal influence, by a liberal contribution of our means, and by an active and zealous participation in the duties and labors it imposes.

Before closing these remarks, already too extended, allow me to offer my testimony to the efficient labors of the two gentlemen with whom I have been associated as a sub-committee for the two years past, in the preparatory arrangements and general management of our annual exhibitions. The active and well-directed labors of the Corresponding Secretary are known to you all. By your authority the Executive Committee have attached to his office a fair salary, as a compensation for his services. This is no more than just and reasonable.

Theodore S. Gold, Esq., the other member of the sub-committee, has been untiring in his efforts, and with an enthusiasm worthy of the cause, has cheerfully and successfully devoted much of his time and personal labors to the objects of the Society.

With the most sincere wishes for the prosperity of the Society,

I am respectfully yours,

SAMUEL H. HUNTINGTON.

On motion of the Hon. James T. Pratt, it was unanimously

Resolved, That the thanks of the Society be tendered the President for the able manner in which he has discharged the duties of his office, and that the letter be placed on file.

The report of the Corresponding Secretary, reviewing the transactions of the Society for the year, and commenting on its prospects and importance to all the industrial interests of the State, was read and accepted. The report of the Executive Committee, adopting the Secretary's report as their own, and the report of the Treasurer, were also read and accepted.

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The following is an abstract of the Treasurer's report:

RECEIPTS.

Surplus of last year, including interest, - -	$5,515.54
Subscription of citizens of Hartford, - - -	3,000.00
Receipts from other sources, principally for admission to the Fair, - - - - - -	10,493.57
Total, - - - - - - - - -	$19,010.41

EXPENDITURES.

For Printing Transactions of 1854, and other expenses of that year, - - - - -	$1,300.00
For Salaries, - - - - - - - - -	1,300.00
Premiums, - - - - - - - - -	4,416.50
Expenses connected with the Fair, including dies for medals, - - - - - - -	8,473.94
Total, - - - - - - - - -	$15,490.44
Surplus, - - - - - - - - -	$3,519.97

To this is to be added the sum of $2,500, still due from the State Treasury, being the amount of the grant made at the last session of the Legislature, making a total of $6,019.97.

The report having been read and accepted, the Society proceeded to an election of officers for 1856. The following gentlemen were appointed:

President.

NATHANIEL B. SMITH, of Woodbury.

Vice-Presidents.

CHARLES H. POND of Milford.
NORMAN PORTER, of Berlin.

Directors.

H. A. GRANT, of Enfield.
B. A. ANDREWS, of Waterbury.

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ERASTUS WILLIAMS, of Norwich.
R. B. CHAMBERLAIN, of Coventry.
THEODORE S. GOLD, of West Cornwall.
AMOS D. LOCKWOOD, of West Killingly.
BRAINERD MONTAGUE, of Middletown.
ELIAKIM HOUGH, of Bridgeport.

Corresponding Secretary.
H. A. DYER, of Brooklyn.

Recording Secretary.
JOHN A. PORTER, of New Haven.

Treasurer.
NATHANIEL A. BACON, of New Haven.

The following resolutions were passed:

1. That the President of the Society, S. H. Huntington, James T. Pratt, A. H. Byington and Jasper Martin, be appointed delegates to the Fourth Annual Meeting of the United States Agricultural Society, to be held at Washington on the 9th inst.

John T. Andrew, of West Cornwall, was subsequently added to this delegation.

2. That the members of Congress from Connecticut, be requested to attend the same convention, as delegates of the Society.

3. That the Society recommend to the Executive Committee, in the matter of locating our Annual Fairs, to invite all the towns in the State to offer propositions for the consideration of the Committee; and that they locate it in that town that shall offer the greatest inducements as to location, railroad facilities, hotel accommodations, &c., provided that no town shall be entitled to the award, unless they offer in money a sum to be fixed on by the Executive Committee.

4. That the vote of the last annual meeting, committing the subject of the salaries of officers to the Executive Committee, be adopted as the vote of this meeting.

After some discussion on various points of much interest, the Society adjourned to meet at 7 o'clock, P. M.

Society met at Brewster's Hall, the President in the Chair. Hon. Henry C. Deming, of Hartford, was introduced, and

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delivered an address. At its close, on motion of John T. Andrew,

Resolved, That the thanks of the Society be extended to the Hon. Henry C. Deming, for the eloquent address with which he has favored us, and that he be requested to furnish a copy of the same for publication with the transactions of the Society.

The Society then adjourned.

JOHN A. PORTER,

Recording Secretary.

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COMMUNICATIONS.

PLAN OF AN AGRICULTURAL SCHOOL.

Written for the Transactions of the Connecticut State Agricultural Society,

BY JOHN A. PORTER, M. D.,

Professor of Agricultural Chemistry in the Yale Scientific School.

An Agricultural School worthy of the name, is one of the most evident and pressing needs of the country. We are to a great extent, a nation of agriculturists, yet without an institution in the whole length and breadth of the land, which furnishes the proper instruction to the agricultural community.

Professorships of Agricultural Chemistry, indeed, exist in two or three institutions, but away from farms, without means of practical illustration and experiment, and unsupported by other branches of instruction, which would give completeness to an agricultural course, they languish, as they must continue to do, while they stand alone.

These professorships form no exception to the statement that the country is unsupplied with adequate agricultural instruction.

The wants of the country in this respect, are obvious.

First. A well stocked and well furnished farm, fully up to the standard of the best agriculture in the world, to show what the best existing practice is.

Secondly. An experimental farm, to improve on the best practice, and advance the cause of agriculture.

Thirdly. The means of instruction in all the sciences connected with the culture of the soil.

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The farm should comprise all the buildings and yards of the most improved arrangements for the feeding and watering of stock, of the most improved and labor-saving implements of every kind, of the most improved machinery and appliances which have been found to be best of their sort, and been proved to be of economical value. Everything should be planned and constructed with the utmost regard to economy and profit, and the whole machinery of the farm should be regulated as successfully as in a prosperous manufactory. The farm should be stocked with cattle and sheep, and all other domestic animals of different breeds, including as great a variety as possible, in order to know the characteristics of the different races, and give to each the opportunity of studying their peculiarities. It should be under the superintendence of a thoroughly practical man, and be conducted at his own risk and for his own profit. Model farming in any practical and economical sense of the term, is not likely to be realized on any other plan. It is by no means so important that the farm should be the *best* farm in the country, as that it should be the best *managed* farm. If it should furnish obstacles to be overcome in the character of its soil, necessity of draining, soil mixing, or other improvements, so much the better, rather than the worse. The farming of a rich virgin soil calls for no aid of science, and demands no skill. The obstacles are just what are wanted to illustrate what skillful scientific farming is, where the farmer, as well as nature, has something to do.

The person in charge of the farm, should have access to all agricultural publications of value, both American and foreign, and keep himself informed in relation to all new implements and fertilizers, and other suggested improvements; but would be under no obligation to put any of them in practice, unless satisfied of their economical value. Improvements requiring large outlay, such as draining and irrigation, if evidently of great utility and of permanent value, would be executed at the expense of the institution. The management of the farm should be decidedly conservative, and furnish an example of progressive, but prudent

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farming, conducted with a sole view to profit; including under this term that lasting advantage which consists in the improvement of the soil. All this would be secured by making the income of the farmer dependent on the produce of the farm itself, precisely as if the land he cultivated were his own.

The second great want of the country, in an agricultural point of view, is an *experimental farm* connected with the practical farm as above described, and devoted to experiments in Scientific Agriculture. The subjects for experiment of practical importance to every farmer, are innumerable. Rotations of crops, admixture of soils, the preparation and use of manures, the diseases of plants, the introduction of new plants, are a few among the number. The experimental farm should be under the control of chemical, and other professors, for experiments in their several departments; and be regarded as purely experimental ground, where the idea of immediate profit, should not interfere in the least degree with perfect freedom of investigation. The other or main farm being conducted with a view to profit alone, the accounts of the two should be kept entirely distinct, and all material passing from one to the other, should be paid for with a fair equivalent.

The directors of the experimental farm would have occasion to superintend experiments in feeding, and in the dairy, which would be best made on the associated practical farm, and would increase to some extent the labor there required; but this also, should be paid for, and the character of the latter as a solely practical farm, be in all respects maintained.

The experimental farm would not probably be remunerative in a pecuniary sense, but it would be the means of testing for the associated farm and the country, the value of suggested improvements; of teaching the science of experiment to the pupils of the institution, and from time to time, of bringing to light new and important truths in Scientific Agriculture.

A Museum of Agricultural Products, is another essential feature of an Agricultural Institution, such as the country

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needs. It should exhibit grains, roots, fruits, woods, in all their variety. Its collections would serve for the purpose of illustration in Lectures on Agricultural Botany, and Physiology. A botanical garden connected with it would add greatly to its value.

A Museum of Agricultural Implements should also form part of its means of instruction. These would serve as illustrations of lectures on the mechanics of agriculture, in which these operations would be explained, and their comparative merits considered.

Such collections can be made at comparatively trifling expense. A suitable building being provided, the material to fill it would flow in from the liberality of farmers and manufacturers, quite as fast as could be desired.

A Veterinary Hospital, for the treatment of diseased animals of the vicinity of the farm, would also be an essential feature of the plan. It should be under the charge of a competent veterinary surgeon, who would give instruction in the nature and cure of the various diseases to which animals are subject.

The principal branches of Science which should be taught in an Agricultural School, are Chemistry, Meteorology, Geology, Mineralogy, Zoölogy, Entomology, Animal and Vegetable Physiology, Veterinary Medicine and Surgery. To these may be added Survey, a knowledge of which is of the utmost convenience to the farmer, and should form part of a liberal agricultural education.

Chemistry stands prominent in the list, in view of its superior and acknowledged importance. Agriculture aims at the transformation of earth and air into grain, and wood, and fruit. The process is, in a great part, chemical. Every dunghill and compost heap, and square foot of soil is a laboratory. Every farmer, whether he would be or no, is a chemist from the very nature of his profession.

But, it is open to his choice to be an ignorant one, or to possess himself of the knowledge of the properties and mutual relations of the materials with which he deals. This knowledge he needs, and must obtain from the scientific

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chemist. It is none the less necessary if he never makes an analysis. It makes him a rational and economical experimenter, and thus puts him on the road to advance in his profession.

The importance of Mineralogy and Geology, which treat of the materials out of which soils are formed, and from which they derive their character, whose principles guide the Agriculturist in his search for fertilizing materials, and frequently furnish him with the most valuable hints in locating and improving his lands, is equally obvious.

The importance of Meteorology, or the knowledge of the relations of heat and moisture to the atmosphere, and the soil, and the plant, and of the laws on which change of weather depend, is no less apparent.

Although, not necessarily of every day application, all these branches form, properly, part of a liberal agricultural education. And so of all the other sciences which have been mentioned. The enterprising man, possessed of such knowledge, will find abundant occasion for its application, and abundant suggestions in its possession.

On the value of a knowledge of the principles involved in the breeding of stock, and the laws on which its improvement depend, of the diseases of plants, and animals, and of insects, injurious to vegetation, and the means to be employed against them, it is needless to dwell. Instruction in all these branches should obviously form part of an agricultural course.

What a center of light would such a school as is here described, be to the whole agricultural community. All purported discoveries in agriculture would come to it to be tested, and important truths developed by experiment, would go forth from it to the world. Through its public museums, well-arranged buildings, its variety of stock, and latest improvements in every department, open to the public, it would become the direct instructor of the whole farming community. Through its pupils, it would disseminate widely, the varied practical information which its course would furnish. And, beyond all this, it might be made the means of eliciting the

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experimental labor of hundreds of intelligent farmers throughout the country, for the decision of the important agricultural questions which are still unsettled.

The latter point is worthy of some further illustration.

Agricultural experiments, as at present conducted, are so extremely unproductive, not so much for want of care in their execution, as on account of their isolation. An experiment which belongs to one set of conditions of soil, exposure, and climate, is taken as final for all circumstances; or, if repeated, under different circumstances, with different results, the consequence is rather a diminished faith in all experiment, than a conviction of the necessity of multiplied and varied trials.

The only remedy is a carefully organized system of experiment. Suppose such a system once in operation, and, instead of individual experiments, comparatively valueless from their isolation, the same experiment made in a hundred different places, during the same year, under all the varieties of soil, climate, and exposure, which a hundred different localities combine; suppose the results of such a system of experiment, carefully collated and compared by its proper head, and the latent principles which they contain deduced—it would not be long ere the innumerable mooted questions, which float through our agricultural journals, and hold their place there year after year, would give place to definite views, resting on the sure basis of accumulated experiment, and take their place as solid stones in the edifice of agricultural knowledge.

But such a system must have its well devised plan of experiments, and its own experimental ground; asking co-operation, for fear of being burdensome to its coadjutors, only where co-operation is necessary. All these, such an institution as is here described, with its corps of instructors, would furnish; and thus, beside doing its own independent work, be the means of eliciting, to a great extent, the zeal and labor of intelligent agriculturists throughout the country in the cause of agricultural improvement.

With the help of such a system of experiment, it is scarcely hazarding anything to say that an amount of progress in

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agriculture is possible in ten years, which it would otherwise take a century to accomplish.

Lastly, such an institution should be the source of published information to farmers in relation to its experiments, and all improvements to which they may have led. It should also keep them informed of the comparative value of all fertilizing materials offered in the market, for the use of agriculturists. It should even control, as it would be able to do by its published analysis, the manufacture and relative price of these articles, and thus secure the farmer against the fraud, to which he is constantly exposed in the sale of spurious and worthless articles.

In founding an Agricultural School, such as is here described, great advantage will be realized by connecting it with a University already established. Where Professorships of Chemistry, Geology, Mineralogy, Meteorology and Engineering already exist, with well furnished laboratories, and extensive mineral collections, the foundation is already laid, and half of the expense has already been incurred. Such a basis may be regarded as $100,000 at the least, already contributed to the cause of a great Agricultural School.

An equal sum in addition, would be needed, for the other departments, although a beginning might be made with less. But even supposing the amount doubled or even quadrupled, it could not be regarded as large, when considered with reference to the magnitude of the interest involved, or the results which might reasonably be anticipated. An annual increase of the value of land in the State of Connecticut alone, by the one-hundredth part of one per cent., as a consequence of the knowledge which such a school would diffuse, would more than pay the interest on such an endowment.

An addition of one peck per acre to the potato crop of the same State, would pay it.

An increase of one-thousandth in the product of hay, or one three-hundredth in the dairy produce of the State, would cover it.

It can not for a moment be doubted, that practical results

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of immensely greater value than these could be reasonably expected to flow from such an institution.

Looking at the subject from a national point of view, the immense importance of the diffusion of knowledge on agricultural subjects, is still more strikingly impressed.

The number of horses in the United States, is estimated in the last census report, at about four and a half millions. An addition of one dollar per head to their value, as a consequence of a better knowledge of the principles involved in the breeding and rearing of these animals, would amount to four and a half millions of dollars.

The number of neat cattle is estimated at about eighteen millions. At the moderate valuation of twenty-five dollars per head, an improvement of one per cent. would be equivalent here also, to an increased value of four and a half millions of dollars.

On taking a more general view, an addition of one per cent. to the annual agricultural produce of the whole country, would amount to sixteen millions of dollars per annum. Yet the possibility of such increase in the value of stock and the products of the soil, is not a matter of question, nor is there any room for doubt that, all that is in the way of it, is the lack of the knowledge, which such institutions as we describe are calculated to diffuse.

Of the practicability of such schools, supposing the funds at hand, there can be no reason for doubt. The land required is to be had in almost any locality, for a fair equivalent. Information in relation to foreign improvements in agriculture, is readily accessible, either in publications or on the spot. Instruction of the highest order in practical agriculture can be supplied from the ranks of our own best farmers. The means of instruction in the sciences connected with agriculture, are no less readily attainable.

Neither is there any question as to the demand of the country for liberal agricultural instruction, and the patronage which such schools would receive.

In addition to all the material advantages which would flow from their establishment, they would have an influence

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which can scarcely be estimated, in elevating and dignifying the calling of the agriculturist. This they would do by their direct influence on those now engaged in agriculture, and again, by calling forth to its calm and ennobling pursuits, talent and wealth which are now compelled to seek the dignified associations of learning, in other professions.

By extending the course of instruction, for those who should desire it, into correspondence with the professional training required for the pulpit and the bar, the wants of the class referred to would be supplied, and a valuable acquisition of means and influence, which are now expended in other directions, be secured for the cause of agriculture.

Schools, such as are here described, would give, in fine, to the Scientific Agriculture they would create, the merited rank of a learned profession, and thus dignify as well as advance that branch of industry which lies at the foundation of our national prosperity.

NOTE. The writer deems it proper to state that he has learned that a plan of coöperative agricultural experiment, with a central farm and bureau, similar to that here proposed, has been suggested by Geo. J. Pumpelly, Esq., of Owego, N. Y., and that the importance of a model farm, of exclusively practical character has also been strongly urged by S. W. Johnson, Esq., of New Haven.

WOOL IN CONNECTICUT.

In 1824, Mr. John A. Taintor, now known for his efforts to improve sheep and other stock, stored a few thousand pounds of wool in Hartford. This was the entire stock in market, of the State. And that even this was not in market, soon appeared. Month after month passed, and no buyer could be brought within miles of the wool. Finally, the owner was constrained to bargain with the farmers of West Hartford and Farmington, to take their wool, on condition that their teams should draw his wool with their own, forty miles, over the hills, to Hampton. Here, the vicinity of manufactories made wool more saleable. Now, a farmer

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would consider an article next to worthless, which should cause him such pains-taking. Then, it was the *habit* of farmers in the west of the State, to load their wool, trudge sixty miles to Worcester county, Mass., and there peddle it from factory village to factory village, as charcoal is in cities hawked from house to house. The price of wool is now no less than it then was; the sale of wool is a very different affair.

No other attempt was made to establish a wool depôt in this State, until 1833. Mr. Taintor now and then gathered a few clips from the farmers, fixed upon some place to which they were to draw it, carefully avoiding Hartford, and transferring it to his own teams, went seeking a market. A manufacturer would hardly leave his office to buy a load at his door.

Some small lots in 1830, were consigned to Hartford to be sold to southern markets.

In 1833, a store was leased, a sign hung out, and Hartford became a wool depôt. The year following, this venturesome merchant sold his lease for two hundred dollars, and for the consideration of one hundred dollars, contracted to deal no more in wool in Hartford. Now, the wool trade of Hartford is the wool trade of the State. Some two or three hundred thousand pounds may change hands in Norwich in a prosperous year. This is but a moiety of the wool negotiated in Connecticut.

In 1833, about one hundred and fifty thousand pounds of Vermont and Connecticut wools were stored and sold in Hartford. This quantity did not vary greatly from year to year, until the autumn of 1837. Then, the young business took on new vigor. In the paralysis of trade following the disasters of 1837, dealers, or more accurately, the wool-*dealer* of Hartford, bought largely at low prices. In 1838, a million pounds of wool were sold in that market. During the six following years, the quantity remained the same, but was distributed among several dealers, attracted, as is the course of business, to an employment reputed lucrative. Since 1844, the increase has been steady and rapid.

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Now, from five to six millions of pounds of domestic wool are yearly distributed from this center, through Connecticut and Massachusetts.

I shall take it for granted, that a sketch of the details of a business of such magnitude, and so closely connected with agriculture, will be interesting.

The wool trade is more a "mystery" than most wholesale merchandizing. The long, knobby bales do not explain the *modus operandi* of the business, as do bales of cotton with their sample-slit.

Sheep are washed in Ohio, Pennsylvania and Illinois, in the early part of May; in Vermont, Michigan, and other of the more northern States, a month later. If the demand for wool is active from the present or prospective prosperity of manufacturing, the wool agents immediately commence operations. This class of men are of more than average activity and intelligence, and have established a Yankee reputation through the west.

It is not their province to *buy*, but to superintend and advise local residents, who buy of their circle of neighbors.

Wool is bought by clips; is brought by the farmers in loose bulk to the local depôt; and, as fast as it accumulates sufficiently, is packed and sent down the great railroad veins to its destination.

The farmers of some districts press each fleece before tying. The press is simply a wooden box, with a sliding bottom, and slits in the tops to allow the strings to meet.

Wool-packing seems a trick unknown to wool-growers. If not unknown, it is at least, unpracticed.

The process is simple. The edge of the mouth of a bag is turned about a cooper's hoop from the inside outward, until it will bind; the bag is passed through a circular aperture in the packing-board, the aperture being of the size of a full bag but smaller than the hoops; thus the bag hangs within the hoop, and the hoop is supported by the board, being placed across a hatchway, or where it is convenient to place it; a few fleeces are thrown in, a man follows them and feeds the bag with his hands, while he stuffs it out with his

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feet. A bulky mass of wool is by these means soon brought within control. An active man and boy will pack ten thousand pounds a day. Farmers who grow but a few pounds, perhaps save as much by the superior appearance of their wool, neatly piled in a rack or loosely tied up in a blanket, as they would gain by the economy of packing, even if a neighborhood should club.

From the foregoing notice of the manner in which wool is gathered, the importance of practiced and clear-headed agents will be manifest. To buy is not difficult. To buy at the right time and place, averaging the thousands of clips in respect to price and quality, is a very different matter. And to lose commissions by forbearing to purchase, is a severe test, both of judgment and probity.

The wool of the West comes straggling into market near the first of July. That from Vermont is about a month later.

As soon as the wool is in the warehouse, the bags are ripped up, and their contents come into the hands of the graders. These men are second only to the agents, in their responsibility. To separate a heap of Merino, Saxony, South Down, Native and all the numberless mixed breeds, into piles of uniform quality and appearance, throwing fleece after fleece with what appears a hasty glance, needs years of practice. And the profit on wool depends much on the precision of the grading. A few coarse fleeces greatly damage a pile of fine quality; while a few fine fleeces are lost in a coarse stack. If a farmer shears a few Saxony with a large proportion of coarser wooled sheep, he will not get a fair price for his wool, however honest the buyer may be. And the result is the same if a few Native sheep are mixed with a fine flock. To stack the wool with *taste*, is the last process before the manufacturer is introduced to the raw material. The quality, or fineness of the "hurl," is the first of the characteristics which determine the choice of the manufacturer.

Wools are loosely classed by dealers according to the goods to be made from them, quite as often as by the proper grade. A merchant speaks of cassimere or satinett wool as often as of extra, No. 1, &c. Not that many grades of wool

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may not be used in making any style of goods, but that two or three grades only are used for these styles. The time is near when wool will be stapled by the merchant, that is, each fleece will be divided into from five to nine portions, according to quality. A buyer who should scrutinize the quality and neglect the condition of his purchase, could not fail to be ruined. The condition of wool is determined by its whiteness and freedom from animal matter.

A glance will determine the whiteness of a pile. A dealer does not need, in many cases, even to see the wool. If you offer him Michigan or Illinois wool, he expects to find it dingy. Connecticut wool, more especially that from clay districts, has a reddish tinge. In general, the wool takes its hue from the soil. Sheep fed on the hills of Vermont and washed in her clear streams, yield white fleeces. Washington county, Penn., and the best counties of Ohio, send white wool to market; this excellence is due in part, to the attention paid to the condition of their wool, and in part to the unremitted exposure of their sheep.

By comparing the size and weight of a fleece, the buyer judges of the animal matter foreign to the fiber. Wool washed upon the sheep will shrink in weight from twenty-five to forty per cent. when cleansed. Whether a purchaser obtains sixty or seventy-five hundredths of what he wants, is of consequence. An allowance of one-third is made on unwashed wool, and with this allowance it does not find a ready sale. Manufacturers have a prejudice against large fleeces. This has grown up for just reasons.

Vermont fleeces exceed others of like quality in size and weight. The sheep of that State, even where the breed is the same, are larger and tougher than those of other wool-growing States. Again, the sheep of the North are housed for a large part of the year. This increases the weight in two ways. Not only is the fleece protected from the detersion of the rain and snow, but also much food, which would be otherwise wasted in animal heat, is made into wool. Thus, the fleeces of Vermont average four and a half pounds, those of Ohio but two and three-fourth pounds, and those of

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Michigan three and a half pounds. Twenty years ago, the condition of Vermont wool was far superior to what it now is. The increasing value of New England lands, the uncertainty of manufacturing, and the competition of the West, have conspired to urge farmers in Vermont to supply in weight, a possible deficiency in price. This deficiency has not yet occurred. It may seem paradoxical to assert that a wool is not in good repute,' and that it yet brings the average price. It is nevertheless true that the farmers of Vermont usually receive as much per pound for their wool as the farmers of Ohio. And it is also true that our shrewd manufacturers have learned that the proportion of wool fiber in a Vermont fleece, is not so much greater than that of an Ohio fleece, as is promised; and so have come to look upon large fleeces as deceitful. Why the Vermont farmer obtains an undeserved advantage can be readily understood. His wool comes late into market, as has before been noticed. The agents are then in the heat of the campaign, and their competition at its climax.

In the market then, a close buyer prefers the wool from Ohio and Pennsylvania. When he "goes into a lot," you will see him select fleece after fleece—always the most unfavorable specimens, profiting by the wisdom of Solomon, "it is naught, it is naught," leaving the yankee salesman to light upon the choice ones—spread the hurl, scrutinize the fiber, poise the fleece in his practiced hand, and perhaps bury his nose in the wool. And let it not be supposed that the odor of all wool is unpleasant. The writer has snuffed Washington county wool as delicately fragrant as any of Lubin's extracts. Buyers for the great de laine mills are a class by themselves. They rarely purchase an entire lot of graded wool. If a lot pleases them they bargain for the privilege of selecting from it such wool as is fitted for their uses. Their sorters "go through the lot," examine the staple of every fleece, and test its strength by a vigorous snap. The staple to be adapted to combing, must be at least two and a half inches long, and strong enough to withstand the sorter's snap. Besides de laines, combing-wools are made into listing and

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carpet-yarn. The buyers for de laine mills object to Vermont wool on the ground that the fiber is too harsh to make a soft fabric. Out of western wools they obtain but a small proportion, fifty per cent. of the lots they examine; and even of the selected fleeces they use only about one-half, the rest being again thrown upon the market. They travel far and wide, control the profits of the mill, and sometimes receive a salary of six thousand dollars.

From the foregoing facts it will appear, that a complex system, involving great risk, heavy expense, and a long time for its execution, has grown up to meet the increasing demand for wool.

In 1840, but three millions of pounds of wool were manufactured in Connecticut. In 1855, from eight to ten millions of pounds were wrought. With such rapid increase in the consumption of the State, we should naturally expect some corresponding progress in production. If the quantity did not change materially, it would seem that the quality and styles of wool in Connecticut, must have received a strong impetus toward improvement. It costs no more to keep a good sheep than to keep an inferior one, and in some breeds not so much. Our farmers might do something toward supplying the great demand which has so rapidly gathered force. Let it be granted that they can not compete with the West in growing Saxony and Merino wools; or in breeding any sheep for the wool alone. They yet enjoy an advantage in many respects over western farmers. And if this advantage has been understood, such results as the following are unaccountable. In 1845, 849,066 pounds of wool were grown in Connecticut. Of this 244,486 pounds were Merino, 90,094 Saxony, and the remainder mixed. It will be noticed that attempts to improve on the old native and mixed stock had at this time been confined to the fine-wooled breeds. Now for the consequence. In 1850, 497,454 pounds was the production of the State. The fine-wooled sheep are not profitable for mutton. It is acknowledged that a breed of sheep to be successful in New England, must be mutton sheep.

So long as the western farmer finds it profitable to grow

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wool for wool alone, he will not, for obvious reasons, trouble himself with sheep whose flesh is more valuable than their fleece. Here then the farmers of New England are free from competition. The fact that $100 is offered for every sheep weighing over two cwt., proves that good mutton is little eaten because there is little good mutton to eat. The first study of the farmer must be the quality and quantity of the flesh.

This need not exclude the study of the fleece. To bring the wool of Ohio into market costs two and a half cents per pound. Our sheep part with their fleece almost at the door of the manufactory. The western farmer can not choose his time for sale as can the farmer of Connecticut. The former finds the fine wools of small sheep profitable. But the lower grades obtain better prices in proportion from year to year. Every little helps.

Again the combing-wools are the product of large, healthy, well-fleshed sheep. The wool of such sheep alone combines length and strength of staple. And these are the sheep which our farmers can make profitable. The wool of such large breeds as the Leicester and New Oxfordshire, brings but half as much as Saxony; but the quantity from a sheep is threefold. Such wool is used for listing and carpet-yarns, and the demand is still limited. South Down wool brings forty-five cents per pound. The sheep reach a weight of fifteen pounds to the quarter, their mutton is superior in quality to that of any other breed, and readily brings a corresponding price in the markets where it is known.

It may be esteemed mere theory to suggest that a breed might be formed and should be formed to suit the circumstances of our producers and consumers. Yet why not? The writer knows of no breed which yields a wool just suited to the de laine manufacture. For such wool there is a demand which far exceeds any probable production of this State. Whether the flesh of sheep producing such wool would be *best* suited for mutton, is known to those better acquainted with sheep-breeding than the writer.

To learn that within the last ten years, Connecticut has

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retrograded, not only in wool, but with the single exception of tobacco, in all the products of the farm, will cause sorrow to every lover of his State. Such is the fact. While the manufacturers of New England have been driving the English fabrics out of market after market, the farmers of New England have done little for the credit of their country. More sheep are yearly killed in England than the entire stock of sheep in the United States. Her wool-crop is four times ours. We import her wools under a heavy duty. Her lands are surely more valuable than those of Connecticut. Yet our farmers fancy wool unprofitable. Under every disadvantage the Connecticut manufacturer competes with the English manufacturer. Invention and skill balance low-priced labor and low-priced raw material. Will not the farmers of Connecticut dare to enter the field against the farmers of England.

Too much of the agricultural enterprise of Connecticut, has been dissipated on the broad prairies and rich bottom-lands of the West. Too many young men who loved the honest dignity of farm labor have been martyrs to the land missionary cause.

May the time soon come when enterprise, capital and skill will push forward the agricultural interest of the good old State, as they now push forward her mercantile and manufacturing interests. Then capital, enterprise and skill will grow as well as sell wool.

A. C. D.

BARNS.

HENRY A. DYER, ESQ.:

Dear Sir:—In answer to your request to say a few words about barns, I will state, as briefly as possible, what I consider to be some of the principal requisites for a good and complete Barn Establishment.

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The size and arrangements of the barn depend so much upon the character of the farm and the amount of stock kept, and are so varied by the peculiar circumstances of the ground on which it is located, that nothing more than a general exposition of principles will be attempted, leaving them to be adapted to the exigencies of particular cases as may be required.

The first point that presents itself for consideration, is the selection of a site. This must be carefully chosen, for a vast amount of labor may be annually saved by a judicious position of the farm buildings. The location of the barn must depend upon the greatest combination of advantages that any one point possesses, as there will rarely be on any farm exactly such a spot as is most desirable.

Independently of other circumstances, the nearer the center of the farm the buildings can be placed, the better. The ground on which the barn stands should, if possible, slope to the south, or south-east, and be near some running brook, from which to derive power for the machinery, and water for the stock. The possession of a good water-power is very important, and will often determine the location; for in its absence, we are obliged to resort to the expensive and troublesome expedients of horse-power or steam.

There should be no wet or marshy ground in the vicinity, if it can possibly be avoided. If the location chosen is not perfectly dry, it should be made so artificially.

After having chosen the site, we must next take into consideration the plan and general arrangement of the building.

In the Architecture of the barn there should be no attempt at ornament. Good proportions, and a thorough adaptation to the uses for which it is intended, should constitute its chief beauty. It should always be constructed of the most suitable materials, even if a little extra expense be thereby incurred. There should be much less timber, and far better workmanship, than is generally to be seen in this State. More attention paid to the framing is desirable, as it is in many cases of the rudest description. The most suitable timber common in all parts of this State, is the chestnut;

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which is one of the most durable woods known. For the sills, perhaps white oak may be preferable. The sides should be covered with boards placed vertically, and the joints battened with three-inch strips. The roof should be shingled, and the whole exterior painted. The doors should all be made to slide on rollers, instead of the more common way of opening on hinges. A sufficient number of windows should be put in to light every part of the building, and furnished with shutters, to darken them if required. The inside fittings may be made of almost any wood that is most convenient; being protected from the weather, it is not likely to decay. For the stalls and floors, the harder the wood the better, on account of the cost of replacing when worn out. The urine from the stalls should not be allowed to come in contact with any part of the framing, as it causes wood to decay rapidly.

There should be provided permanent and suitable stairways between the floors; also, ladders to the lofts and roof, where there should be a scuttle. One or more ventilators should be placed on the roof, communicating by pipes with the stables.

If the ground slopes sufficiently, entrances should be made for driving in teams, on each floor. This can be done in most cases, without much extra expense, by a judicious position of the building on the slope.

Under the floor should be a cellar the whole size of the building, divided into at least two compartments. One, under the stables, for manure, and the other for the storing of roots, etc.

This cellar should be furnished with two doors in each compartment, for the entrance of teams, approached by an incline from the surface of the ground. The walls should be laid in cement, and the floor made water tight.

The first story above the cellar should contain the stables for horses and cattle, the pens for the calves, sheep and hogs, the poultry-house, tool-house, and the horse-power or steam engine, if such is intended to be used. This floor should be furnished with bins for the cut hay and straw intended for

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immediate use, a cistern to supply water, a turnip-cutter, root-washing machine and feed-box. It is also desirable to have a clock and thermometer.

The best arrangement for the stalls will depend, somewhat, upon the comparative amount of the different kinds of stock kept; but generally the most advantageous disposition of them will be along the sides of the building, with the heads toward the center. This allows of the food being distributed with the smallest amount of labor, and arranges the trap-doors for passing the manure to the cellar, around its circumference. In this arrangement, the cistern, bins, feed-boxes, etc., are placed in the center of the floor, where also should be a scuttle leading to the cellar, for the sweepings. Above the root-cellar, should be scuttles, accessible to teams, over the separate bins, for depositing the roots in their proper places.

Should there be any spare room on this floor, the bays for hay may be continued down through the two stories, from the floor above.

The upper floor of the barn should be devoted to storing the hay, grain and straw. The lofts should be arranged along the sides, leaving a clear passage through the middle for teams. In all barns of any magnitude, arrangements should be made for unloading by the water, or other power. Much labor, and what is often of greater value, much time is saved by this method. From this floor to the one below, should be tubes for passing down the hay and grain as they may be wanted for the stock. The spaces allowed for the different kinds of fodder being, as nearly as possible, over the places where they are wanted for use. There should also be a pipe communicating directly with the cellar for manure and sweepings. If extra accommodations are needed on this floor, boards may be placed across the beams of the roof; making a very convenient place for straw or grain, which can be raised by the power.

At the north end of the building, on this floor, a corn-bin can be constructed, if desired, with slats on the outside; in which case it should be enclosed from the inside.

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At the south end of this floor should be the fruit bins, with scuttles for loading a cart on the floor below. On this floor should be the hay and straw cutters, the threshing, winnowing and grinding machines, and corns heller and cleaner; all of which should be driven by the power. On this story should also be hay-scales, and measures for grain.

If the ground on which the barn stands will not admit of an entrance for teams on the upper floor, the arrangements will have to be altered so as to unload into the lofts from the lower floor; in which case, also, most of the machinery will have to be on this floor, the building being made lower, and covering more ground.

The open sheds, for wagons, etc., the poultry-house, and the pens for sheep and hogs, can be arranged in the main building, or be built in the form of additions, as circumstances may require. If a cooking apparatus is used, or artificial heat is required, it should always be in a separate stone or brick building, the heat being conveyed by steam pipes to the barn.

If horse-power is used for driving the machinery, the best application of it is, undoubtedly, by turning a vertical shaft, by the usual manner of a tan-mill. When a water-wheel is used, its position will have to be determined by the peculiar circumstances of the case. It can be either in, or under the main building, or in a wheel-house adjoining it. The last mode gives greater facilities for repairs, and avoids having a water-way through any part of the barn, the evaporation from which might be deleterious.

Having described the general arrangements of the building, some important details will next be spoken of, upon which the health and comfort of the stock depend, and which are necessary to the most economical management of the establishment.

Stables for Horses, should generally be on a more liberal scale than is usually allowed. The ceiling should be at least eleven feet high. The stalls should be separated by partitions seven feet high at the manger, and sloping down to five feet high at the other end. The dimensions of the

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stalls should be seven by four feet. The floor being inclined about one in fifty, to facilitate drainage. Back of the stalls, running transversely to them, the length of the stable, as close as practicable to the partitions before spoken of, should be a gutter or a drain, three inches deep, and one foot wide, to receive the urine. Opposite the end of each partition between the stalls, should be openings to receive the liquid manure, and conduct it to the proper receptacle. Back of the drain there should be a space of at least six feet, to allow room for the removal of the manure, and for the passage of the horses in and out. On the side of this space, opposite the stalls, may be the pegs for the harnesses, taking up about one foot of the width. If the manure is kept under the stables, there should be trap-doors through which to drop it, opposite the end of every second partition between the stalls.

The best manner of preserving manure has been a much discussed subject; and it is still somewhat doubtful, whether it is best preserved under the stable, or in the open air, protected from the effects of the rain. The principal objection to keeping it under the floor of the stable, is the effect of the exhalations rising to the barn. This can be partially obviated by having tight floors, but not entirely, as the best way to dispose of the urine in this case is by openings through which it can run to the cellar, which apertures allow of some escape of noxious vapors. The great advantage of this system is the preservation of almost all the fertilizing properties of the manure, provided the cellar is made water tight, which can be easily accomplished by a coating of cement. If it is not so, a separate tank must be provided for the liquid manure, to which it must be conducted by proper conduits.

The objection to the method of keeping the manure above ground is, that much of the valuable part escapes by evaporation and fermentation. The principal advantage is the easier ventilation of the stables.

The manger should be eighteen inches wide, with the bottom thirty inches from the floor, and should extend the whole width of the stall. At one end a square should be parti-

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tioned off, in which to place a bucket, which should by means of a pipe furnished with a cock at each stall, be kept constantly supplied with water. Using a bucket is much better than trying to make the division of the manger water tight; it can also be easily removed at any time, for cleaning. It is a good plan to have two or three bars across the top of the manger, to prevent the food being "nosed" over the side in feeding.

The animal should be secured in the stall, by having the end of the halter put through a ring in the manger, and a light weight suspended on the end.

The common practice of placing a rack above the feeding trough, over the heads of the horses, is much to be deprecated. Aside from the opening it gives for the vapors of the stable to rise to the hay loft, which might be obviated perhaps by having a trap-door and keeping it shut when not in use, it occasions a great waste of hay, by its being thrown down among the litter and trampled under foot. The best plan is to have no rack at all. The advantage gained by cutting and preparing the food, more than paying for the extra expense and trouble. If, however, a rack is considered indispensable, it should be placed low down in one corner, by which the waste will be much lessened.

Perfect ventilation should always be secured in a stable. Fresh air is as necessary for the health and comfort of the brute creation as for man. Yet how often do we find the atmosphere of the stable vitiated by the pungent ammoniacal fumes which assail our senses on entering.

Perfect ventilation can always be attained, by having a tight tube reaching from the ceiling of the stable to a ventilator on the roof. This tube should be about three feet square, and be provided with a valve or door at the ceiling of the stable, so as to admit of its being regulated to any amount of draught, by means of a cord passing over a pulley. Small openings, covered with wire gauze, should be provided in the sides of the stable, near the floor, to admit fresh air. The stable should be entirely disconnected from

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the lofts, to prevent the vapors from being absorbed by the hay.

Stables for Cattle are of various construction; their form being adapted to the various purposes for which the cattle are kept.

For fattening, the practice of keeping the animal loose in a box about nine by nine feet square, and letting the manure accumulate under him, has many advocates. Others recommend a slat floor, raised about eighteen inches from the under floor, either in loose boxes or stalls, and removing the manure once a week, or as often as convenient. Though most animals thrive well under this latter treatment, yet they never appear to stand easily on a floor of this kind; living, as it were, on a species of ladder. They are likewise constantly subjected to the effects of the odors from the excrement below them, to a greater extent than in the preceding plan, in which, by placing litter on the floor every day, the whole mass becomes trodden down compactly together; the liquid being entirely absorbed, and nothing wasted.

Fattening cattle with the greatest economy, depends on having a plentiful supply of fresh air, with warmth, quiet and cleanliness. This can best be obtained by the loose box system, and, with the same expense, greater accommodations for cattle can be obtained by this plan, than by any other. It also occasions the smallest outlay of labor, food and litter, of any system of stall-feeding.

Stalls for working oxen, may be made without partitions, allowing each animal four feet of room, in width. Each stall should be provided with a feeding-trough, divided into two compartments, one to contain water, kept constantly at a level by a ball-cock in the cistern, or made with a separate cock, as described for horse stables.

The oxen should be secured by a strap round the neck, fastened to a vertical post in front of the feeding-trough, by a chain connecting with a sliding ring on the post. If stanchions are used, a different arrangement of the feeding-trough becomes necessary; but it is to be hoped that their use will soon be superseded by a better method of fastening. Five and

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one-half feet back of the feeding-trough, a drain should run the length of the stable, one foot wide and four inches deep, to receive the manure, with proper contrivances for carrying the liquid to a tank, or to where it will be absorbed by a sufficient quantity of litter. Back of the drain there should be a gangway at least four feet wide. In front of the cattle there should be a passage-way about four feet in width, to obtain easy access to the feeding-troughs. Stalls are sometimes arranged on opposite sides of such a passage, with the cattle facing each other, but for several reasons such an arrangement is objectionable.

For cows, the same disposition of the stalls as for oxen, is as advantageous as any, with the exception of allowing them less room by one foot in length, and six inches in width.

The mangers for cattle should have bars across the top, as described for horses, and the bottom should be about twenty inches from the floor. If racks for hay are used, they should be placed as low down as possible, and be filled from the passage-way before mentioned, and not from above, except trap-doors be provided, and kept shut when not in use. Racks are however in all cases extremely objectionable.

Bulls should be kept in boxes similar to those described for fattening cattle, but they should be made larger; twelve feet by ten is a good size.

For young cattle, before they have obtained their growth, it is well to have sheds so constructed as to open on to a small yard, as they will thrive much better if allowed to range in and out, than if subjected to confinement.

Calves are best reared by the side of the cow; but it is often desirable to bring them up artificially by hand, or to keep them separate from the cows, and let them loose at stated periods to be suckled. When brought up by hand, each calf should be kept in a separate pen, which should not be less than four by four feet square and three feet high, made of slats, some of which should be moveable for an entrance. The floor should be made tight, and every provis-

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ion should be made for cleanliness. Perfect ventilation should be secured, and the walls periodically whitewashed.

Sheep should have large and comfortable sheds, where a number may be kept together; from the sociable nature of the animal they thrive better than when alone. Care must be taken to put those of nearly equal size and strength together; so that in feeding, the weaker may not get crowded. The plan of keeping a number in one pen is more economical in outlay, as but one feeding-trough and watering-place are necessary.

Hogs should be provided with a house and yard, and numbers can be kept together, taking the same precaution as with sheep, of separating the stronger from the weaker; for from the natural greediness of the animal, the latter are little likely to get their share of the food. The lodging should be raised from the yard about three inches. It should open if possible to the south, and be well protected from the weather. The floor of both the lodging and yard should be tight, and have an inclination of about one in fifty, to insure perfect drainage. The fence to the yard should be so high as to prevent the animals from seeing out. The feeding-trough should be separated into divisions, to prevent the food from being rooted out while feeding. The best feeding apparatus we have seen, is that invented by Col. R. M. Abbe. It accomplishes all that is desired, and is not expensive. Hogs are not necessarily filthy animals, and if provided with clean straw, they will keep in a clean state; and their more thriving condition will fully repay the extra care and attention bestowed upon them.

As the keeping of Poultry is often a source of so much profit to the farmer as to make it a part of his regular business to keep a large number fatting for the market, proper accommodations should be provided for them, of ample dimensions, water-tight, and inaccessible to any animals that might disturb them. The house should face the south-east, if possible, so that the fowls can receive the first beams of the sun in the morning. Each species should have its distinct apartment, entered by its own separate door. The

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nests are best placed in rows, one over the other, having a shelf in front of each on a level with the bottom of the nest, projecting about one foot. Instead of the usual form of roosting-bars, as they are generally placed, it is better to have them arranged in the form of a ladder, inclined at an angle of about forty-five degrees. There should be a good sized yard for the fowls in the day time, furnished with a suitable pond for the ducks and geese. Pigeons should not be kept on a well-managed farm.

A tool-house should be provided in a convenient part of the establishment, large enough for the safe stowage of all the tools used on the farm. A particular place should be assigned to each, where it should always be found when not in use.

The complete barn should not be without its infirmary, to which diseased cattle can be immediately removed, so as to be entirely separated from the rest of the stock. As different treatments are required for different animals, accommodations for keeping them separate are indispensable. The building for the infirmary should comprise a loose box for horses, stalls for cows and oxen, and small sheds and yards for sheep and hogs. The floors should be laid with cement, the walls and ceiling should be plastered, and made as smooth as possible. All the wood-work should be planed, and the feeding-troughs covered with zinc, or made of iron. Every time a stall is occupied, it should be thoroughly cleaned and whitewashed before any other animal is put into it. In this part of the establishment, ventilation and warmth should be especially attended to.

In mentioning thus briefly some of those points which may be considered as most important in constructing a good barn, of course much has been necessarily omitted in the way of details, which it is presumed are familiar to those who are at all conversant with well-managed farm buildings. It is scarcely to be hoped that any one barn will be constructed, which will combine all the advantageous arrangements and contrivances that a barn might possess. For the smaller establishments many things would be useless and expensive

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that might be of great saving in the larger. The original outlay is often a matter of so great moment, that it is sometimes advisable for a farmer to dispense with some of the more expensive appliances; the extra labor thereby incurred, not being so important a matter to him as the increased cost of the building.

In conclusion, it is hoped that it will always be borne in mind, that to accomplish the greatest saving of expenditure in feeding stock and making due provision for their warmth and comfort, is preëminently a part of good husbandry, and is as necessary to the prosperity of the farmer as a fertile soil, good stock, and well cultivated fields.

Hoping that anything I have written may be useful, I remain, yours respectfully,

THEODORE G. ELLIS,

Civil Engineer and Architect.

HARTFORD, February 25th, 1856.

POMOLOGY.

BY HON. JOHN M. NILES.

THE cultivation of fruit is a branch of agriculture which has been long neglected, and within a few years only has commanded public attention in some degree commensurate with its importance. The early settlers of New England were by no means neglectful in the growth of fruit. Their attention was chiefly confined to the apple, of which orchards were everywhere planted on almost every farm in New England. The chief object in the growth of the apple was cider, which early became a universal drink in all the Eastern States. The value of the apple as a desert fruit or for culinary uses, does not seem to have been well understood by our ancestors, nor is it yet fully appreciated. At this period there were very few varieties of choice apples either for fall or winter use. There were two or three kinds of the

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Pearmain introduced from England which were well-flavored and valuable, but have now deteriorated. Among other varieties introduced into Hartford country, and probably into other parts of the State from England, was an apple called "Bitter Sweet." The fruit was about the size of the Greening, and resembled it very much except that the skin was a duller green. Its flavor was sweet and quite bitter; it was used exclusively for baking, and was deemed so important for that purpose, that in this section of the State almost every farm had one or more of these trees. The tree grew very large, often two and a half feet in diameter near the ground; and the trees of the winter Pearmain were also usually very large. Some few trees of these varieties, planted by the early settlers in Connecticut, are still standing. The first orchard planted, generally lived a century or more where the soil was suitable, and the trees grew to a very large size. The Bitter Sweet, so long cherished for baking, would now be deemed utterly worthless for that purpose or any other.

After these varieties came the Seeknofurther, the Sweet Russet, the Fall Pippin and some others; but the varieties of choice fruit were very limited at the close of the last century. Down to about that period the apple product was mainly consumed in cider; what the farmers did not want for their own use they sent to market. But about that date, the distillation of cider into brandy commenced, and like most other evil inventions, it had a very rapid development; almost all the large farmers in Hartford county had distilleries, which manufactured their own cider into brandy, and that of others in the neighborhood who had no distillery. At this time many farmers in this county often made from three to six hundred barrels of cider, and some few a thousand barrels. The cider was deposited in casks and sometimes in large tubs and vats to ferment, and attain the proper state for distillation. From eight to ten barrels of cider were required for a barrel of the brandy. In general the distillers did not purchase the cider, but returned for it a certain number of gallons of brandy.

This business, now for many years fortunately discontin-

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ued, was a source of considerable income to the farmers, but it had a most pernicious influence on the habits and morals of the people. It brought the whole rural population into direct contract with a cheap and vile liquor, which most farmers possessed by barrels and used with a freedom corresponding with its abundance and cheapness. At the same time there were numerous grain distilleries, which made gin and whisky from rye and corn. The demoralizing effect of this state of things was truly appalling; it was fast brutalizing the people and carrying society back into barbarism.

All good and thoughtful men became alarmed, and anxiously inquired what could be done to arrest this wide-spread evil, more destructive than the pestilence. Their reflections and efforts resulted in the temperance movement, which in a few years, in concurrence with other causes, arrested the cider-distillery business, so pernicious in its influence. But when public opinion would no longer tolerate the conversion of the apple crop into a vile liquor, an impression began to prevail, that orchards had ceased to be of any value. They were regarded like the barren fig-tree as mere cumberers of the ground. Many cut their orchards down, and all neglected them. It required time to discover that apples were valuable and profitable to feed to hogs, horses and cattle; nor was it at this time supposed that it was an object to cultivate apples for market, the contiguous markets then being very limited, and there being no facilities for conveying a perishable commodity to distant markets.

But now all these circumstances are changed. The population in our cities, commercial towns and manufacturing villages has greatly increased, and will continue to increase, whilst the rural population in the Atlantic States is nearly stationary. Manufactures and other interests have sprung up, which in connection with commerce, afford employment and support to a large element of our population, who are the consumers of the products of the soil of every kind; and these classes have become more wealthy than formerly, and more in the habit of consuming articles not belonging to the class of necessaries of which fruit is the most important.

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And in concurrence with these changes, the system of railroads affords extensive facilities for transportation to distant markets, either on the seaboard or in the interior. With the increasing wealth of the people there is a growing taste for rational luxuries, as well as greater ability to indulge in their use.

If half a century ago there was no object in raising fruit in Connecticut except for family use, and no object for cultivating apples except for cider, it is not so now. There is at this time, ample demand for fruit of every kind, and this demand will increase faster than the supply will be likely to increase. Indeed, with the exception of apples, our markets are supplied with very little fruit, and a large portion of what there is comes from New York.

Does not this show that there is a want of attention to this subject, for fruit may be made to yield a better profit than almost any other crop, if skillfully cultivated. In France and Italy, where land is worth five times what it is here, the cultivation of fruit for market is an important interest, and the price in their markets is less than in ours.

Connecticut possesses a climate and soil well adapted to the production of fruit, not surpassed in this country and scarcely inferior to any part of Europe. The most important and valuable of the fruits of the temperate latitudes are the apple and the pear; both of which may be as successfully grown in this State, as in any part of the world. If France and Belgium should be thought to excel us in the cultivation of the pear, they certainly fall greatly behind us in the production of the apple.

In my judgment, next to the apple and pear, the grape is most deserving of attention in this State, or in certain portions of it, which until within a few years has been wholly neglected. Our severe and long winters and cold springs, render the peach an unreliable fruit here; yet it is worthy of cultivation for family use if not for market. The cherry, of which we have many valuable varieties, succeeds well in this State; and also the plum, on clayey or heavy soils, which in a degree save it from the ravages of the curculio.

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its most dangerous enemy. The strawberry, that cherished early fruit, may be successfully grown in every part of this State, and on almost any soil, which is not too wet, if properly enriched and prepared. According to my experience and observation, the best mode of growing the strawberry with those having sufficient ground, is to regard it as a biennial crop, as much so as wheat or rye. Let a plantation be set out in the spring in rows three feet apart, and the hills one and a half feet apart; plant and hoe them as you would potatoes two or three times, and by fall the vines will cover the ground, and the next season they will reward your labor liberally! Let them then be plowed up, after taking what is required for a new plantation. The soil should be dry, where the water will not settle in the winter, and free from the shade of trees.

But my observations were designed to be confined mainly to the growth of the apple and pear, not only as a luxury for the family but for market. Since the period of which I have spoken, the varieties of choice apples and pears have multiplied very fast, and at this time there are enough for all practical purposes of summer, fall and winter fruit, if no new varieties should be introduced for half a century.

In the early settlement of New England, the only good pear grown was the *Bon Chretien*, commonly called the Sweet Bell Pear. This variety sometimes does well yet, but it is deteriorated and not now worth cultivating. At a later period the White Doyenne, called in this State, Virgalieu, and the Russalet, called the Catherine, and the Jargonelle were introduced; but by no means generally cultivated. With the exception of these four sorts, there were scarcely any pears fit to eat grown in this State, until within a few years. Now there are numerous varieties of choice pears, particularly of autumn pears, many of which have been sufficiently tried to show their adaptation to our climate. The varieties of choice apples are also greatly increased, and new sorts are almost every year being introduced to public notice.

Many of our farmers are beginning to appreciate the im-

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portance and profits of the orchard, where fruit well selected for the locality and for the market, is cultivated. The Greening has been more generally grown for the last thirty years than any other winter variety in Connecticut; and considering its productiveness and valuable qualities for culinary purposes, it is perhaps as valuable a variety as we have. Peck's Pleasant is becoming a general favorite, and is a fruit of the most delicate and fine flavor, and keeps well, but its flavor deteriorates late in the season. The Baldwin also is very productive, keeps well and is a valuable fruit for market. The Roxbury and some other varieties of the Russet succeed well in this State. Of autumn fruit, the Gravenstein and the Skinner apple, which originated in the city of Hartford, are the two best varieties with which I am acquainted. Of summer fruit, I have seen no sort better than the Early Harvest, with its tender breaking flesh and fine flavor.

The first consideration in the growth of the apple and the pear, is the selection of the ground; a mistake here may sacrifice all the labor and expense. The soil suitable for the apple is suitable for the pear; although there are some soils on which the apple does very well, where the pear would not succeed. The second consideration is the preparation of the ground, which should be properly manured and plowed very deep. If the whole field is not plowed, there should be a square rod plowed for each tree. The first requisite as to the soil is that it be dry, not only on the surface, but with a subsoil free from wet. The next, that it be fertile, with a subsoil compact and firm, and not wholly devoid of fertility. A clayey subsoil, or argillaceous gravel, or stone and gravel where the geological character is of granite or slate, is preferable. A sandy loam, with a subsoil of loose, coarse sand, is wholly unsuitable for orchards. The apple-tree will attain a small growth on such soil; but the pear will scarcely grow at all. The third thing in respect to the ground is the exposure, which should be southern or eastern, where the ground is not level. A southern or eastern hill-side or declivity, if the soil is suitable is a very favorable circumstance. Where the soil is not very suitable, the defect may in a measure be

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supplied by making a large excavation and depositing half a cart-body of virgin soil from the woods to each tree. The soil not only affects the growth and healthiness of the tree, but in no small degree the quality of the fruit, particularly in respect to pears.

Avoid planting orchards too thick; the trees are injured by it, whilst the ground crop is nearly lost. If set two rods apart or forty trees to the acre, the ground crop will scarcely be injured, and hence two crops are taken from the same field. This shows the great profit of the fruit culture. An acre of forty trees of fifteen or twenty years growth, would yield an average of two barrels to the tree, or eighty barrels, worth one hundred dollars, which is four times as much as the ground crop would be worth. Apples will never be worth less than a dollar a barrel in this State, and generally more.

Pears may be grown for market with vastly more profit than apples, where the ground is suitable. But the tree is of slower growth, more delicate and more liable to diseases which injure and sometimes destroy it. The great enemy of the pear-tree is the blight, to which the apple-tree is not in any serious manner exposed. This disease has prevailed in this county, and probably over the State, the last three seasons. I have lost three or four fine trees of fifteen or twenty years growth, and had many others more or less injured by it. This disease had not visited our pear-trees before, for about twenty-five years, when it prevailed for several seasons. It was less general and not so virulent last season as the two preceding, and I am inclined to think it has spent its force and will not trouble us any more for the present. Like many other evils it is periodical in its visitations, and I hope we are relieved from its annoyance for some years to come.

If so, it is a favorable time to plant pear orchards; and nothing can be more profitable as an outlay on land, even before they attain to an age to yield much fruit. But the trees must be protected, and they require cultivation, which, however, may be connected with some ground crop. A pear-orchard of one or two acres, where the trees had from five to

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ten years' growth, would add to the value of the land ten times more than the outlay on the trees. And at twenty years' growth the annual crop will be worth many hundred dollars. Whilst the pear-tree is of slower growth and more delicate than the apple, when it has got its growth it has advantages over the apple-tree aside from the superior quality and value of the fruit. Pear-trees are much more uniform and constant bearers than apple-trees; whilst the fruit for marketing is worth at least five times as much. Choice pears command almost any price the conscience of the seller will allow him to ask. Sales are made in our large cities at startling prices. They are sold as high as ten, twelve and fifteen dollars the barrel. I have seen a statement respecting the pear-orchard of Thaddeus Stevens, of Canandaigua, in the State of New York. It comprises three acres. The sixth year he had some fruit, which he sent to New York and sold for eight dollars the barrel. The next year he had thirty barrels, which he sold for fifteen dollars the barrel. The next season, which was only the ninth from the time of planting, he had fifty barrels, which he sold at eighteen and twenty dollars the barrel, yielding nearly one thousand dollars as the proceeds of his crop. His trees are on pear stock, which I should recommend. The account did not state the kind of pears he cultivated; but I presume they are the White Doyenne, or Vergalieu, which succeeds well in Western New York, and formerly did in Connecticut; but now can not be relied on here.

But this must not be taken as an ordinary case of success. It is extraordinary to get such quantities of fruit from trees so young. Some trees will not begin to bear until ten years or more. The difference in the time of trees fruiting, depends partly on the growth of the tree, and partly on the variety of fruit. Dwarfs, or trees on quince stocks, bear much earlier, which is their only recommendation.

But if pear-trees are long in coming into bearing, it is a mistake to suppose that each year does not yield a profitable return; for it certainly does, and a larger one in the growth and increased value of the orchard. In growing pears,

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whether for family use or for market, it is very important to select the best sorts; and in deciding the question, the flavor or quality of the fruit is by no means the only consideration to be attended to. The growth, size and vigor of the tree, and its productiveness; the size of the fruit, its tendencies to crack, to rot at the core or to general decay, are all points not to be overlooked. From my own experience and observation, I can recommend, for summer pears, the Madeline, Tyson and Bloodgood; for autumn, the Bartlett, Washington, Flemish Beauty, Seckel and Beurre Diel. These autumn pears have been thoroughly tested, and are all productive as well as of fine quality. The Beurre Bosc, Paradise of Autumn, Urbaniste, and many others, may be equally valuable but have not been sufficiently cultivated to test their merits in all the essential points belonging to a first-rate variety. There is perhaps no better autumn pear than the Dix; but it is so tardy in getting into bearing, that few have the courage to cultivate it. I have grafts ten years old, and that have had a good growth, which have not yet come into bearing.

Of winter fruit, the Winter Nelis, the Beurre d'Aremberg, the Glout Morceau and the Lawrence, have been so far tried as to justify recommending them. Some of these, however, do not succeed equally well in all situations and soils. The Nelis I have never known to fail, and is deserving of universal cultivation for winter use, or for market. The Beurre Diel is as much a winter as a fall variety. The Vicar of Winkfield is more profusely productive than any other winter pear, and in some soils is a very fair desert fruit, and in all cases excellent for baking.

Grapes, it can hardly be said, are cultivated in this State for market, although there is probably no fruit which would yield so profitable a return, although the crop may be exposed to more contingencies than many others. In the growth of the grape, the selection of suitable soil and exposure is more essential than in respect to the pear. A fertile sunny declivity, with a deep soil resting on gravel or clayey subsoil, is preferable. The ground should be subsoil-plowed, or spaded very deep. At Cincinnati they plant the vines three

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feet by six apart, giving about two thousand four hundred vines to the acre.

The Isabella is the only grape which has been cultivated to any extent in Connecticut. This is healthy and productive, and the fruit has but little pulp and possesses an agreeable flavor; but it is wanting in a rich, vinous flavor. The Catawba is a better grape, but does not ripen quite as early; and the Isabella is liable some seasons to be cut off by the frost. Within a few years past, a large number of new varieties have been introduced, some of which will quite probably, prove better adapted to our climate and soil, than the Isabella. Among these, is the "Hartford Prolific," which originated in Hartford. This grape resembles the Isabella in its branch and berries, and in flavor is but little inferior to it, while it ripens full two weeks earlier. Where there is danger of the Isabella's not ripening its fruit, I know of no variety so valuable as the Hartford Prolific.

Grapes raised for market will afford a very great profit. I have seen a statement from a gentleman in Naples, in the State of New York, that a few years since, he realized eleven hundred dollars profit from a vineyard of one acre. The fruit generally sells at ten cents per pound, or more. Why should not our cities and towns be abundantly supplied with choice fruit through the whole season? This is the case in most parts of Europe, in France, Italy, Belgium, and parts of Germany and Switzerland. None of these countries are better adapted to the fruits of the temperate latitudes than Connecticut, and some of them much less so. In the cities of those countries, the supply of fruits in market is as abundant as that of vegetables. All kinds of fruit there is sold by weight. Fruit is almost their only luxury, which is healthful and free from any evil tendency. Our markets everywhere might be as abundantly supplied as the markets of continental Europe, which like charity, would bless both city and country, both the seller and the purchaser, and would afford an additional source of industry and profit to the gardener and farmer, as well as of enjoyment and luxury to the inhabitants of the cities and manufacturing towns.

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CULTIVATION OF THE VINE AND MANUFACTURE OF WINE.

Among the various agricultural and horticultural interests of Connecticut, there is one that is now coming into notice, and which has hitherto been most strangely overlooked. I allude to the cultivation of the *Vine*, and the manufacture of *Wine*. It is surprising to reflect, that blessed as we are with a soil and climate so congenial to the vine, and which favors its spontaneous growth so abundantly throughout this State, and indeed over the whole of New England, we have refused or neglected to avail ourselves of the important advantages so easily within our reach.

The leading interests of this State have materially changed within a period of twenty or thirty years. We formerly produced a surplus of mutton and beef, and raised large quantities of grain for exportation and distillation. Now, we are buying cattle from other States, and our farmers hardly produce grain enough for our home consumers; we are, in fact, depending upon the great West for much of our food, and upon other States and foreign countries for the cotton and wool which clothe us.

Distilleries have given a welcome place to other manufactories; tobacco and other crops are occupying the land on which we raised our bread stuff, and we have now an opportunity to advance another step and commence a pursuit which gives pretty certain promise of abundant reward. We have had sufficient evidence within a few years past, that good wine can be made in this State, and it has proved to be an agreeable and profitable employment to those who have engaged in it. I have reason to believe that during the past season, a good deal of wine has been made in this State, from the grape, and principally in the county of Hartford; some have made barrels for sale; others, a few gallons for their family use, and physicians are giving it decided preference in their medical prescriptions, to the foreign drugs *miscalled* wine; it is readily sold at from two to four dollars per

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gallon, according to its age and quality. Experiments are also being, and have been made by many besides the writer, to test the value of other fruit for wine, for according to the definition of Webster, we are not to be confined entirely in this country to the grape, for the term *wine*. The blackberry, elderberry, raspberry, strawberry, currant, cherry, tomato, &c., have each been successfully used for that purpose. But of all fruit for productiveness, for ease of cultivation, for health, and for profit, the grape stands as yet unrivalled, as it has through all time, since the days of Noah.

In the great wheat and corn-growing West, the farmers are converting many of their grain fields into vineyards, and find by experience that ten times the value can be obtained from an acre of vineyard than from the same land in grain; from five to seven hundred gallons of wine is a common yield for an acre, and their wine commands from one to one dollar and a quarter per gallon at the press; some sell their grapes directly to the manufacturer, and usually obtain from two and a half to three dollars per bushel. A writer for the Patent Office Report, at Cincinnati, states, that "from one acre well planted with healthy vines, from $600 to $1,000 worth of wine may be produced in good seasons." In the States of Ohio, Kentucky, Indiana, Illinois and Missouri, about 3,500 acres are now planted to vines, and the area devoted to this purpose is steadily increasing, while not one vineyard of extent, is yet planted in Connecticut.

Notwithstanding the fact that between two and three million gallons of wine, are now annually made in the United States, the demand far exceeds the supply, and the price is advancing as the manufacture is improved, and the superior qualities of American wine become better known.

Facts are convincing us that we can no longer rely upon foreign countries for wine, and the base, poisonous imitations, so commonly sold as genuine, admonish us that we are not safe in using one drop of it while in health, much less in sickness. The vineyards of Europe which have heretofore produced more than two thousand millions of gallons annually, are perishing with a blight which attacks them;

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[illegible] wine in the market, the same as [illegible]. The variety from which wine has chiefly been made in our State, is the common fox grape, found growing wild in our woods and hedges. It yields a strong, highly flavored wine, and when of suitable age, is nearly equal to pure Madeira. The grape being acid and tart, seems to require the addition of two or three pounds of sugar to the gallon before fermentation, and I have not as yet succeeded in obtaining good wine from this grape, without some sugar to neutralize its acidity. If it could be made without it, as perhaps it may yet be done, it would be very desirable, because its strong aroma would class it among the best wines in the world. By varying the process of manufacture, several different kinds can be made from this grape. At the West, the Catawba is the principal wine grape, is used without sugar, and is justly regarded as superior to any other variety for that purpose, but it is not sufficiently hardy for extensive cultivation here.

The Isabella is probably the best wine-grape for this American latitude, and requires but little if any sugar, when well ripened. It is a native of South Carolina, and a prodigious bearer, yielding with good treatment, *four tons* of grapes to the acre, which at fifty pounds to each bushel, (nearly the average weight,) amounts to one hundred and sixty bushels; and at four gallons per bushel, produces six hundred and forty gallons of wine to an acre. We are pleased to know that our wine, unlike some of the imported kinds, inherits none of that peculiar *rancid* taste, imbibed from the goat-skins in which it is brought from their vineyards on the backs of mules.

The first year's labor and expense of planting and tending

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a vineyard, is greater than for other crops, but afterward *less;* if desired, much of the labor can be performed as it is in Europe and at the West, by women and children. But the wise caution of Connecticut people, will at once inquire as to the certainty, profit and method of conducting the business. Well, that is very proper; but the limits of this article will not admit of all the information they would naturally require. Books are published which afford reliable information upon the subject, in this country, and which will give to all who desire it, every detail necessary to pursue the business successfully.

The following extract from a small work, recently published by the writer, entitled "*The Vine, Wine Making*," &c., describes briefly the method of propagation and culture:

"*To Propagate by Layers.* Bend down a shoot from the vine and cover it with two or three inches of earth or inverted turf, and pin it to its place by sticks across it, driven into the ground, or lay a stone upon it, leaving two or more buds on the end, above the ground. It will readily take root if not too dry, and can be cut from the parent vine very early in the spring, or in the fall, and will sometimes bear fruit the next season.

"To propagate by *cuttings*, take any well ripened wood of last year's growth, and cut it into pieces of six to twelve inches, each containing three or more buds; they can be taken from the vine in March, or at any time between the first of November and first of April, before the circulation of sap commences. They are then buried in the earth, or kept in the cellar until wanted for setting out. They are first set in a garden or well-protected ground, and at a distance of six to twelve inches apart, in rows which may be a foot or more distant. At the lower end which goes into the ground, the wood is cut as near the bud as can be without injury. They are set in the ground so deep, that the topmost bud shall just come to the top of the ground, so as to receive the benefit of earth and air, as this is the only bud which shoots above the ground, the others going to the formation of roots. If the season should be dry, they will

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require watering occasionally, and a shady spot, but little exposed to the sun, is preferable. Sometimes they are put endwise in a pot or box and filled in with earth and watered. In this manner, a great number may be put in a small space, for transportation.

"I have received cuttings sent by mail from Detroit, Michigan, to Windsor, Conn., and most of them proved to be in growing order. There were two buds only on each, and were waxed on both ends and enclosed in a little damp mass, enveloped in paper, similar to a public document, and the postage prepaid, by weight. The cuttings will, in the first year, throw up a shoot from the top bud; if two should come forth, the weakest must be taken away, and if none should come, it is not certain that the cutting is dead, for it will sometimes throw out a shoot under ground, and push its way to the surface in the next season. If the cutting throws out a strong shoot the first season, you may, at the next March pruning, cut it down to two buds from the main stalk, or if a weak shoot, to one bud. The young vine can be transported to its permanent place, about this time.

"A healthy root will sometimes produce, the first season it is planted, but more generally the second. It should never be permitted to ripen but few at first, as that would injure its future productiveness and vigor. Some are in favor of setting out their vines in the fall, but my own experience indicates spring as the better time. The hole to receive the roots should be made broad and deep, that they may have room to ramble to a distance, as they will, if the earth is made mellow and mixed with proper ingredients. Bones, street scrapings, old leather, plaster and broken bricks, turf composts, soap suds, wood-ashes, &c., constitute the best manure for vines. Fresh stable manure should never be placed in contact with the roots, nor any substance tending to ferment, or form an acid or salt, of a highly stimulating nature. Some manure their vines every third year by trenching to the depth and width of a spade between the rows, and throwing in two or three inches of well-rotted manure; others spread it on the surface and plow it under, while

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others scatter it upon the surface and dig it under with a hoe. If the vine becomes yellow, it indicates weakness at the root, and the need of manure."

It is not essential that the richest soil on the farm be devoted to the vine, for it will feed and flourish where a grain crop would starve. A gravelly knoll, a hill-side, the edge of a spring or rill, the side near a house or barn, or a heap of stones,—any place of that kind is a congenial spot for its nutrition. To what use more profitable, could many of the rocky hills and steeps of Litchfield, Tolland, and other counties of our State be assigned, than to plant them with the generous and hardy vine? And the rich bottoms along our rivers would give a better and surer interest for money expended in this way, than in the too fashionable custom of some farmers, of investing their surplus money in uncertain stocks and bonds, where a little *extra* interest is anticipated. What could be done more effectually to correct the vitiated taste for alcoholic liquors, than to make the contrast plain and distinct, between such liquors and the pure and wholesome juice of the grape?

As an autumn and winter fruit, none is more desirable, and a distinguished physician remarks, "there is nothing equal to it for old age." Grapes can be kept through the winter as readily as apples, and will bring from twelve to sixteen cents per pound. Just think of it, gentlemen, four tons from one acre, at twelve and a half cents a pound, *one thousand dollars!* Why, at that rate, one acre of vineyard would support a Connecticut family, and school all their children, even if they numbered a full dozen. But to be modest, deduct say one-half of that sum, and still look at the round profit. What a source of wealth to our State, if our people would take hold of this important interest at once, and prosecute it with their characteristic enterprise.

RICHARD H. PHELPS.

WINDSOR, February, 1856.

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GRAPES AND WINE.

HENRY A. DYER, ESQ.,

Secretary of Conn. State Agricultural Society:

DEAR SIR:—I will make a brief statement in regard to Grapes and the manufacturing of Native Wine. As I have but recently commenced the manufacturing of this article, (and that upon a small scale,) my experience has been somewhat limited, although I have succeeded very well in what I have done. The varieties of native wild grapes, in this vicinity are numerous, many of which possess a good degree of saccharine matter, while others contain so little that they are entirely unfit to be used for the purpose of making wine.

The more saccharine matter contained in the grape, the better it is for the purpose of making wine, although in this region it can hardly be expected that we shall be able to find many, if any, possessing that degree of sweet flavor, which will satisfy the refined Yankee taste, without the aid of sugar; some have been found in this country that have come very near to it.

The Catawba and the Isabella, undoubtedly, stand first in the State, and perhaps throughout the United States; but there are many other varieties, worthy of attention. The Hartford Prolific stands high in the estimation of horticulturists in this region. It possesses a delicate flavor, and can be cultivated to good advantage in this vicinity, ripening in early autumn. I have found many kinds of the native grape, containing so much sweetness and flavor, that they can be used to very good advantage, in making a choice article of wine.

The Catawba, unquestionably, is superior to any other kind that has yet been discovered in this country. It possesses superiorities over others in many respects, particularly in the great quantity of juice flowing from the grapes when put to the press; while at the same time its delicious flavor is unsurpassed. It is decidedly the best species for wine,

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wherever the climate is congenial to its cultivation. In this climate it can not be cultivated to advantage, except in warm sunny places. The east and south sides of hills, the south side of buildings, or protective walls, where they may be secured from the northern blasts, and the early frosts of autumn, are the most suitable localities for raising this species of grape. I have had no trouble in their ripening, and they are decidedly the most delicious grape I have ever tasted. I have a few vines of but a few years' growth, which have done extremely well. The crop, during the few seasons since they commenced bearing, has been extremely abundant, while the vines have extended very rapidly. I had one vine which, in the summer of 1853, grew fifteen feet in a horizontal direction, on the south side of a protective wall, in a warm sunny yard. Old manure, or chip manure that is thoroughly decomposed, is good to invigorate the vines.

Had I adopted the Jewish custom, I should not yet have derived any benefit from my vines. The Jews were not allowed to gather the fruit of their vines until the fifth year after they began to bear. Prior to the fall of 1855, I pursued rather a Jewish course so far as regards the mashing of the grapes, although we did not tread them with the feet, neither had we any "wine-presses dug within the walled vineyard upon the sides of the hill, where the husbandmen gathered the large and beautiful clusters, in baskets, casting them into the upper vat of the wine-press; after which, five or six men completely trod them with their feet, jumping and shouting with songs, their garments being thoroughly stained with the red blood of the grapes, and the juice, as it was pressed out, ran through a small grated opening, in the side near the bottom, down into the lower vat." Perhaps the treading out the juice with the feet, or the mashing them with the hands or some other simple method, would be the best process to obtain the most perfect article of wine, as the purest part of the juice is first expressed. But Yankees will never pursue this ancient custom; they go in for new inventions. As I before said, previous to 1855, I gathered the grapes when sufficiently ripe, and after culling them over carefully, casting

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away the defective ones, I then put them into tubs, and then pounded them with a wooden pounder, rubbing them and pressing them with the hands, until they were thoroughly mashed. I then put them into a press, made for that purpose, about three feet high, sufficiently large to hold about four bushels. This press is put on to the cider-press, directly under the large press beam, having a follower passing down into the wine-press, and forcing out the juice through small openings, made in the sides by sawing. In this way we get a great pressure, forcing out the juice very clean. There should be about four or five cakes or layers in a pressing, being well strawed between the layers, and also on the sides. The press is firmly hooped with iron bands. After the juice is expressed it is strained through a fine hair seive, and then through fine flannel, which leaves very little sediment to collect at the bottom of the cask, making it more clear and perfect.

The last season, fall of 1855, I purchased the patent grape-mill, manufactured by Mr. Alfred Clark, of Hartford, which is a very great improvement in the manufacture of wine. It does up the work with the greatest dispatch, mashing the grapes in a very perfect manner, the mill being so constructed that it may be geared tight or loose at pleasure. The seeds should not be cracked. After procuring the mill last fall, I was desirous of testing the speed of its operation. I accordingly took two bushels of grapes, and with two hands, one to turn the mill, and one to feed them in, the labor of grinding was performed in four minutes and thirty seconds, the grapes being well ground.

There is a great difference in the different kinds of grapes, with regard to the quantity of juice they contain. We sometimes get from three to four gallons to the bushel. The Catawba produces more. From the common native grape, a sweet fruit, I have made wine varying from sixteen to twenty gallons of pure juice to the barrel, using about one hundred pounds of sugar. I have made, the past season, from the pure juice of various kinds of the native grape, with the addition of a little refined sugar, very rich and pleasant-flavored

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wines. Grapes should always be picked over, throwing out all the green and imperfect ones and the stems. Grape-vines will never make good wine, neither will apple-tree limbs make good cider.

Respectfully yours,

JARVIS CASE.

CANTON, February 17th, 1856.

INDIA RUBBER.

AMONG the manufactures of our State, that of India Rubber is of great importance, and demands more than a passing notice. Until recently, comparatively speaking, it was an article little known, and when known, not considered of much value. Shoes made from the gum were imported, but they would grow stiff in the cold and become sticky by exposure to the sun, and being easily dented and cut by stones and ice, they were not very generally used. To give our readers a clear and concise history of the gum and its gradual introduction to notice, we quote from the speech of Daniel Webster in the "Great Rubber Case," so called, of "Goodyear against Day," tried in 1852, which trial resulted in a verdict in favor of Charles Goodyear, declaring him the sole inventor of the vulcanizing process.

"It is a gum procured from an equatorial tree, found in greater or less quantities in Brazil, and called by botanists *Ficus Elasticus*. The natural history of the tree is not uninteresting. It is said to be in some of its specimens, the largest tree growing on the face of the earth. There are instances in which it is described as being nearly a hundred feet in circumference. It runs up forty, fifty or sixty feet, without branches, then ascends to a hundred or a hundred and fifty feet, and is crowned or tufted with rich foliage. The leaves are thick and long, six or seven inches in length. The Indians procure the gum by incision in the tree, after

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the manner in which sap is obtained from the maple, in the Northern and Middle States. When the gum exudes from the tree, it is of a milk color, and of the consistency of honey. Unless it be speedily submitted to some process, it coagulates, and therefore, when the Indians have obtained it in the morning, they apply it the same day, layer after layer, on forms of clay or lasts. Then they dry it in the smoke of a fire, made of a peculiar nut; thus not only drying it, but imparting to it the dark color which it has, when we receive it here in the shape of balls, bottles, or shoes.

"It would appear, that it was first introduced into Europe by scientific French travelers, in 1736. In France they analyzed it, but without any profitable result. Dr. Priestly says, that about the year 1791, he saw a specimen of the gum at a stationers, where it was used to erase pencil marks. From that use it derived the common and erroneous name of India Rubber. It was first known in this country about the year 1820.

"In 1823, five hundred pair of shoes were imported into this country, and sold at Boston. At a somewhat later date, it became the subject of scientific investigation, and Dr. Comstock, of Hartford, Conn., obtained in 1828 or 1829, a patent for dissolving it in turpentine, so as to make it plastic, and adapt it for being spread on cloth. Dr. Howe attempted to manufacture India Rubber in New York, in 1829.

"The considerable manufacture of it commenced within the recollection of some of us, in New England, in Massachusetts and Rhode Island. I think it was in the year 1832, the Roxbury factory commenced its operations. It was incorporated in 1833.

"Among a people seeking every avenue for successful enterprise, the apparent prosperity of this company was sufficient encouragement to embark in its manufacture. Accordingly numerous manufactories were in operation in 1834, 1835, and 1836. But these all failed with but one exception. In 1837 and 1838, the business of manufacturing India Rubber was abandoned, except by Governor Jackson and Dr. Hartshorne, of Providence, who carried on business under patents, which

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had been obtained by Mr. Goodyear, until his invention of the vulcanizing process superseded his previous inventions, and drove them or their successors out of the business, whereupon they adopted the new invention, and purchased a license from Goodyear."

By this it will be seen, that about twenty years ago, various individuals were attempting to manufacture rubber goods; but as all their articles were imperfect, and found but a slow sale, the proprietors of the factories failed, and it was not till 1839, when the vulcanizing process was discovered, which enabled the manufacturers to produce a desirable article, that they could manufacture to a profit. Before that time the manufacture was but a series of experiments, and was of course disastrous. The shoes and garments then made, were in summer not fit to wear, nor were they much better in winter; but by this vulcanizing process, (which we shall presently describe,) they are made to endure almost any extreme of heat or cold without the slightest change. The demand for the goods has largely increased, and now this branch of manufactures stands prominent among the arts.

The following is a list of the rubber manufactories in this State.

Three shoe companies. The "Hayward Rubber Co.," located at Colchester; the "L. Candee Co.," of New Haven, and the "Goodyear's Metallic Rubber Shoe Co.," of Naugatuck. The Hayward Co. averages over 700,000 pairs of shoes and boots in a year, and the other two companies over 600,000 each, making in all very nearly 2,000,000 of pairs, at a market value of about eighty cents a pair. All sorts and sizes are made, from the low sandal for a child of three years old, up to the huge California boot, reaching to the waist of the stalwart miner. These establishments consume in all about one million pounds of gum annually.

There is one manufactory of India Rubber clothing, located at Naugatuck, called the "Union Rubber Co.," and also a Glove company, called the "Goodyear's Rubber Glove Manufacturing Co.," both of which do a large business. The Glove company turns out nearly one hundred thousand dol-

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lars worth of goods annually. Besides these there is a Car Spring company at Westport; a company at Newtown engaged in the manufacture of Steam Packing and Machine Belting. These all manufacture flexible goods. There are two companies engaged in producing the "hard rubber" goods, namely, the "A. G. Day Co.," at Seymour, manufacturers of pen and pencil cases, and the "Beacon Dam Co.," at Beacon Falls, which is engaged in the manufacture of almost everything that can be made of hard rubber: and also in the developing of this branch of the business. All these establishments, we believe, are in successful operation, and all employing a large number of operatives, and our readers will see at a glance, that India Rubber is a very important article for our State.

We will give a short history of the discovery of the vulcanizing process of which we have spoken, and which alone gives value to India Rubber, and then we propose to give a sketch of a visit to the shoe factory of Naugatuck and the hard rubber factory at Beacon Dam.

We have stated, that for many years all rubber goods were liable to become sticky and soft in warm weather, and they were for this reason of little value. During this time very many individuals were experimenting and trying to discover some way by which this difficulty might be obviated. Why they should have persevered in their efforts after oft repeated and mortifying failures, is a mystery; but an impression, yes, a strong conviction, seems to have settled upon the minds of the experimenters, that rubber was not always to be shut out from the list of useful productions, but that there was a hidden virtue in it which needed but the right management to be discovered. The first great step was made by Mr. Hayward, who discovered that sulphur mixed with rubber gave it the property of being easily wrought, and that this mixture on being "dried" (as it was then termed) in the sun, had to a certain degree the qualities desired. Still the invention was very imperfect, and the goods manufactured under the patent which Hayward took out, were of little value. This sulphur discovery, although not immediately valuable, was,

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however, of immense importance as the ground-work, the starting point, of all other experiments; and although experiments have been made from that day to this, and although various mixtures have been and are used, yet no one has discovered any method whereby sulphur may be dispensed with. In all the various ingredients used, sulphur is, and probably always will be, the basis. This patent Mr. Charles Goodyear bought of Mr. Hayward, and he then proceeded to perfect it. He labored for years; he endured hardship, reproach, ridicule, the deepest poverty, and the most pinching want, sustained only by his ruling idea, and by the attachment of his devoted wife. We quote again from Daniel Webster's speech, that our readers may get a better idea than we can give of the perseverance and sufferings of Mr. and Mrs. Goodyear.

"At Springfield, Goodyear continued his experiments, till he had so far perfected his invention, as to apply for a patent. This was in January, 1844. He then went to Naugatuck, in Connecticut, and started a factory. It would be but painful to speak of his extreme want, the destitution of his family, half clad, he picking up with his own hands, little billets of wood from the wayside, to warm the household; suffering reproach—not harsh reproach, for no one could bestow that upon him—receiving indignation and ridicule from his friends. Here is a letter, written in a good spirit and cheerful vein, but particularly affecting from that circumstance.

"It was written from the *Debtor's Jail*, in Boston. This is it. I will read it.

MR. JOHN HASKINS
or
LUKE BALDWIN. } *Debtor's Prison, April* 21, 1840.

"GENTLEMEN:—I have the pleasure to invite you to call and see me at my lodgings, on matters of business, and to communicate with my family, and possibly to establish an India Rubber Factory for myself on the spot. Do not fail to call on the receipt of this, as I feel some anxiety on account of my family. My father will probably arrange my affairs in

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relation to this hotel, which, after all, is perhaps as good a resting place as any this side the grave.

Yours truly,

CHARLES GOODYEAR.

"He says it is as good a lodging as he may expect this side the grave; he hopes his friends will come and see him on the subject of India Rubber manufacture; and then he speaks of his family and of his wife. He had but two objects, his family and his discovery. In all his distress, and in all his trials, she was willing to participate in his sufferings, and endure everything, and hope everything; she was willing to be poor; she was willing to go to prison, if it was necessary, when he went to prison; she was willing to share with him everything, and that was his only solace.

"May it please your Honors, there is nothing upon the earth that can compare with the faithful attachment of a wife; no creature who for the object of her love, is so indomitable, so persevering, so ready to suffer and to die. Under the most depressing circumstances, woman's weakness becomes mighty power; her timidity becomes fearless courage; all her shrinking and sinking passes away, and her spirit acquires the firmness of marble—adamantine firmness, when circumstances drive her to put forth all her energies under the inspiration of her affections.

"Mr. Goodyear survived all this, and I am sure that he would go through the same suffering ten times again for the same consolation. He carried on his experiments perseveringly and with success, and obtained a patent in 1844 for his great invention."

His "great invention" was the invention of the vulcanizing process, which is nothing more or less than the subjecting of the rubber mixed with sulphur and a few other ingredients, (but sulphur is the principal and all important one) to a great heat, by which the rubber becomes thoroughly "cured," and has its properties entirely changed. He discovered that rubber which when heated up to a certain point would become soft, and which one would naturally suppose would

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melt if heated to a greater degree, would when combined with sulphur and heated to about 212° Fahrenheit, vulcanize or harden, and become, as some have termed it, "elastic metal." This is the great invention, simple in itself, yet wonderful, which has introduced a new material to the arts, and which has proved of immense value to mankind. The standard by which to weigh inventions is, "what is their value to mankind." Weighed by this standard, this invention of vulcanized rubber stands preëminent among modern discoveries. Sulphur and heat are the two great points in the Goodyear invention, and whoever works rubber, no matter if he uses a thousand ingredients and combines them into twice as many mixtures with the gum, yet if he uses sulphur and cures his goods by heat, he must work under Goodyear's patent. Mr. Goodyear has secured patents both in Europe and America, and wherever vulcanized rubber goods are manufactured, they are stamped with his name.

It is very difficult to describe the process by which rubber is manufactured, but we will endeavor to give our readers an outline sketch of the process, so that they may have some idea of the various steps taken by a rubber shoe, before it is fit to be stepped into by the wearer. The gum is received from the importers in the shape of bottles or flasks, just as it was moulded on clay by the natives of the country from which it came. These bottles are cut up by machinery, into pieces about as large as a walnut, and it is then thoroughly washed and dried. This washing and picking over is for the purpose of removing from it the clay and other impurities which either are never thoroughly removed at the time the gum is moulded, or which have become mixed with it during its transportation. After it is dried in the loft, it is taken to the lower room and there ground between hot iron cylinders. These cylinders are ponderous affairs, weighing each about five tons. They are beautifully polished, and set in heavy frames so as to run perfectly true and without the slightest play. They revolve against each other, one with a little more rapidity than the other, (yet both quite slowly,) so that the gum as it is thrown between them is drawn through from

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the top to the bottom, and as they are heated with steam, the rubber is ground, and softened by heat at the same time. The power required to move these grinders is immense. The rubber is thrown in and drawn through between the cylinders, which are set so close as almost to touch each other, and as it goes through, it gives out a screeching, wailing sound, as if in agony at the rough treatment. Boys at school who have chewed a piece of rubber day after day, and have tired their jaws in trying to make it soft, and all those who are older and who remember such experience, will appreciate the power of these grinders, when we say, that in five minutes they will reduce twelve pounds of rubber to a soft plastic mass. As we stood looking at the process, we could not help bringing to mind the gum-chewing days of our boyhood, and the question naturally came to our mind, How many boys' jaw-power does it take to move those cylinders? And while we were involuntarily making the calculation in our own mind, our jaws fairly ached with sympathy for the great chewing machine at work before us.

While the rubber is passed through these grinders, it is mixed with the various "curing" ingredients. These are, sulphur, antimony, lamp-black, chalk, litharge, coal-tar, &c., too numerous to mention. It seemed to us as we saw this mass of black dirt mixed in with the gum, that the gum was the least important of all. The rubber seemed to qualify the mixtures, and not the mixtures the rubber. To the uninitiated, also, these foreign substances seemed to be thrown in hap-hazard, and their use appeared the result of chance, while the fact is, they are weighed with the utmost nicety, and their good qualities are only known as the result of long and painful study and experiment.

After being ground and mixed by the first pair of cylinders, the mass is handed over to another workman, who subjects it to another grinding between rather more closely set rollers, and from him to a third and fourth, till after four or five grindings, it becomes a perfectly black, thoroughly mixed plastic mass, when it passes on to another set of workmen, who roll it into sheets through a calender. The cal-

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ender consists of four cylinders placed in a frame, one above another. The prepared rubber is passed through at the top between the upper and second cylinder, then back between the second and third, and out again between the third and fourth. By this process it is rolled into sheets, ready to be wrought into shoes.

If it is designed for the soles of the shoes where no cloth is required, it is rolled into sheets and stretched out upon frames, so that no two sheets can touch each other; for in this state the rubber is very sticky, and if two pieces touch, they will adhere at once firmly, and can not be separated. If it is designed for the uppers of shoes, a strip of stockinet is run through between the last cylinders, with the rubber, and the rubber is thus rolled on the cloth, which cloth is rolled upon a spindle like rolls of carpeting, muslin or cotton cloth being wound in with the other cloth to keep it from sticking. The rubber sheets and rubber cloth are then taken to the cutting room, where they are cut by patterns, just as any shoemaker cuts leather, the rubber being wetted, so that the knife will pass through it easily. The patterns are then formed to the last. This operation is very easy and simple. The rubber is so sticky that it has but to be placed upon the last, and the pieces properly arranged, and they are made to unite by passing a smooth piece of iron, like a burnisher, over the seams. No stiching or cementing is required. The shoes on the lasts are then varnished and placed upon large iron frames. These frames will hold a great number of lasts, and when the pegs upon which the lasts are hung are all filled with the brightly varnished rubbers, the frames are rolled off upon little trucks, to the vulcanizing room or heaters. These heaters are large brick ovens with furnaces under them. In the oven are large revolving iron arms upon which the frames, loaded with lasts are hung, very much after the fashion of "fandangoes," which we often see at fairs and watering places. These arms revolve slowly all the time, being turned by machinery, and the frames always keep an upright position, just as do the seats in the fandangoes aforesaid. The reason why they are made thus to revolve, is that they may keep in an even heat all the

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time, and not by remaining in one place in the oven, get only the heat which may prevail in one position. An even heat is required, and a thermometer is hung in the oven before a small opening, so that the person who tends the fires can maintain just the right temperature. The baking, or "curing," to speak technically, lasts all night, and in the morning the shoes are done and may be packed for market the next hour. The shoes made by the "Goodyear Metalic Rubber Shoe Company," of Naugatuck, and we presume those made at all the other factories in this State, are a beautifully finished, perfect article; substantially made, affected by no ordinary heat, and stiffened by no extraordinary cold, they are a comfort to the wearer and a blessing to mankind. The other goods manufactured at Naugatuck, are also perfect in their kind. We saw while there, a rubber coat which was made by the Union Company of that place. It had been worn about two years in hot weather and cold, in wet seasons and dry. It had some of the time been taken care of, and some of the time it had been thrown in under the seat of a buggy, and had experienced all the rough usage of an out-door wagon coat. In short, it had been subjected to all sorts of treatment, and yet it was perfectly whole. Not a particle of the gum was worn off, and it was just as water-tight as when it was first put on. To the farmer and to those whose occupation calls them out in all weathers, such a coat is invaluable, and as the cost is but trifling, no person, so employed, should be without one.

The Beacon Dam Company, George Goodyear, Agent and Superintendent, is located at Beacon Falls, and is engaged in the manufacture of Hard Rubber Goods. Their factory is one of the finest in the State. The main building is one hundred and sixty-five by fifty feet, and three stories high, built of brick in the most thorough and substantial manner. The curing building is one hundred by thirty feet, and there is another building seventy by fifty-six, beside the water-wheel house. The machinery is moved by two water-wheels, twenty-four and a half feet in diameter and sixteen feet face. The entire concern, down to the minutest detail, is substan-

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tially and thoroughly built. No expense has been spared. It may be called a complete establishment; nothing is wanting to entitle it to the name of perfect.

The hard rubber goods are manufactured under Goodyear's patent of 1851. Sulpher and heat are used as in making flexible goods, but in different degree, as we shall describe. The gum is cut into small pieces and washed as in the other factory, and is passed between the heated cylinders, but from this point the process is different. While going through the grinding operation, the curing ingredients are mixed with the rubber, but these ingredients are not the same as are used in making other goods. More sulphur is used, and less of other substances. After being ground with the sulphur, &c., it is passed through the calender and rolled into sheets. The calender of this factory is a very beautiful piece of machinery, and it is worthy of a full description. It consists of four cylinders, set one above another, in a heavy iron frame. The cylinders are of chilled iron and polished as bright as a mirror, and so set in the frame that by turning a small screw, they can be adjusted to roll the sheets of rubber as thick or as thin as may be required. The workmanship displayed upon the machine is of the highest order. The polish of the cylinders, the screws for adjusting them, the boxes and the grooves in the frame are all perfectly finished and to the eye of the mechanic, really beautiful. The machine weighs twenty-four tons. This machine was invented by Mr. Goodyear, and is similar (all being one invention) to the calenders in other factories, except that it is, we believe, of greatly superior workmanship. The drawings were made by S. P. Abbott, Esq., engineer of the establishment, and the machine, as produced from his designs, certainly reflects great credit upon him, as indeed does everything in the factory connected with his department.

After the rubber is rolled into sheets, it is taken to the cutting-room, where, after being dipped in water so that it will cut easily, it is stamped into the desired shapes. If it is designed to be wrought into powder-flasks, it is stamped into pear-shaped pieces. If it is destined to be used to form

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castor rollers or cases for tape measure, a round form is given it. If it is for syringes, it takes an oblong shape, &c., &c.

From the cutting-room it passes to another department where it is roughly formed, and made to assume something the shape into which it is finally moulded. The edges are touched with camphene, and after they are slightly affected by it, they are brought together, when they firmly unite. Two pear-shaped pieces are united by their edges, for a powder-flask. Two round pieces properly managed, form a tape measure case. An oblong piece wound around a piece of polished steel called a mandrel, forms the barrel of a syringe. A notched oval piece becomes a cork-screw handle, and so on, *ad infinitum*. These rough forms are then laid into soft metal moulds which are finely made, and which give the rubber while in the heating process, the more perfect desired form. The moulds are then piled on the top of each other, and keyed together in lots of about a dozen moulds each. A large number are placed upon an iron truck and run into an immense boiler which is placed horizontally in the curing-room. The heating boiler of the Beacon Dam Company is as strong and we think stronger, than steam boilers of its size are generally made. Its weight is fifteen thousand pounds. After the moulds, with the rubber inside, are run into the boiler, the head or cap of the boiler is firmly screwed on, and the steam is let in. For several hours a very high degree of heat is kept up, (about three hundred degrees,) and when the articles are considered sufficiently cured, the cap is taken off and the moulds removed. The rubber which when placed in the moulds, was straw color and did not fit the moulds, is now very nearly black, and being expanded by the heat while soft, has been perfectly shaped, but it looks as unpromising as could well be desired. It is then taken to the finishing room, where it is turned upon lathes or polished upon wheels, as is required. It is as black as ebony, and takes as fine a polish as that wood; but it is somewhat harder and very much stronger. It has no grain and can not therefore be split like wood, and as it does not absorb moisture, it will not shrink nor crack. No degree of heat short of thrust-

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ing it into the fire, will injure the polish. It may be soaked in the most powerful acids a week, and neither the polish nor the material will be touched, and any amount of boiling will not affect it in the least. It is as indestructible by any chemicals as glass, and more tough and enduring than the toughest horn. We will mention but a few of the uses to which it is admirably adapted. Indeed, we can mention but a few, for they are without number.

It can be used for powder flasks, harness rings, knife handles, caster rollers, tape measure cases, acid funnels and pans, pistol stocks, buttons, combs, pen and pencil cases, insulators for telegraph poles, and also for casing the wire, canes, saddle frames, paper folders, dice cups and checker men, sheaves for ship blocks, and in short, almost everything.

As an insulator for telegraph wire, it is unsurpassed. Gutta percha can not compare with it. There is nothing like it for caster-rollers, as they roll with scarce any friction, and do not cut carpets or matting. Handles for table-knives can not be cracked by any amount of carelessness on the part of ignorant servants, and hard rubber sheaves in ship's blocks, will by their want of friction and easy turning, draw out as many blessings from sailors as the old lignumvitæ sheaves have curses. The discovery of the process of making hard rubber is one of the greatest discoveries of the age, and it will not be many years before this material will supersede to a great extent, ebony and other woods, ivory and horn.

We have thus given an imperfect account of the india rubber manufacture of our State. We think all will agree that it is an interest which should be fostered and encouraged. If the notice which we have given of this branch of the arts will tend to bring the articles manufactured from this material to the knowledge of our people, and will induce them to make further inquiries, and inform themselves whether there are not other uses to which it may be applied, and other ways in which it may be made to benefit mankind, or whether in its present form it may not be more extensively used, we shall feel amply repaid.

GEO. P. BISSELL.

HARTFORD.

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SCIENTIFIC EDUCATION, THE WANT OF CONNECTICUT.

BY DANIEL C. GILMAN, A. M., NEW HAVEN.

Connecticut has long been celebrated for the variety and excellence of its educational institutions. Only one important department of instruction has been wholly unprovided for.

Previous to the union of the colonies which form the State, Hartford, before 1642, and New Haven, as early as 1639, made public provision for instruction in the rudimentary branches of knowledge.

County Grammar Schools were ordered by the General Court in 1692, "to be set up and kept," and within little more than half a century from the first colonial settlement, a Collegiate School was organized, which in 1718, received, in honor of a liberal benefactor, the name of Yale College, and has since exerted a powerful influence in every portion of the land.

Connecticut was the first American State to set apart a fund for the maintenance of free schools, thus inaugurating a policy which has been followed throughout the Union; it was the first to urge the establishment of a Normal School for the education of teachers, the first to make provision for the teaching of the deaf and dumb.

Within its borders there may now be found a complete university, with an academic or college faculty, and departments of Law, Theology, Medicine and Philosophy; two other schools of theology; two other colleges; several endowed academies and grammar schools; a teacher's seminary; institutions for the deaf and dumb, the insane, and the juvenile delinquent, beside a complete system of free public schools.

With all these educational establishments in a commonwealth, the people of which are not less distinguished for industry than for general intelligence, it is remarkable that industrial education, of a high order, or the application of science to the useful arts, has been so long neglected. In a population, so large a proportion of whom are farmers and

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manufacturers, not a single dollar has ever been appropriated from the public treasury to provide for their special training, and at the present time it is believed that in the whole State, the income of five thousand dollars only, the gift of one gentleman, is available for any such purpose. Compared with almost any European country, under despotic rulers, Connecticut would appear as defective in educational means, as to some of its own citizens it may seem abundantly supplied.

As a consequence of this neglect to provide instruction in applied and theoretical science, many branches of manufactures which might be of great profit, are unattempted in the State; many large establishments are under the necessity of importing their foremen and sometimes their workmen from Europe; innumerable experiments, the value of which a man of scientific training would immediately have pronounced upon, are tried at a large cost of time and money; immense tracts of land are unreclaimed which might be made fertile by a little skill, and constructions which demand a knowledge of civil engineering and architecture, are not only deficient in convenience and taste, but are often unnecessarily costly or lamentably unsafe for want of an application of the higher laws of science.

Indeed, the material prosperity of Connecticut, as well as of the whole country, is far behind what it might be in almost every branch of industry, could some means be provided for bringing practice into closer accordance with principles, which is the same as leaguing Science with Art. This never can be done until those who are to engage in the higher class of industrial occupations, have the opportunity of acquainting themselves in a thorough and systematic manner, with those immutable laws of nature, which it is the aim of scientific men to discover and teach.

There are various indications that the people of Connecticut are awaking to a sense of the importance of industrial education of an elevated character, and that practical men already see how the investigations and lessons of science have an immediate bearing upon the operations of the mine, the work-shop and the farm. Among these indications are the

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valuable suggestions which have from time to time been made in reference to a closer union between the scientific and the industrial men of Connecticut.

The time has now come to give to such projects a definite shape; but before inquiring how this may be done, let brief extracts be made from the expressed opinions of different citizens of this State, in reference to this subject.

In 1847, the Joint Standing Committee of the Legislature on Education, presented through their chairman, Hon. E. Williams, a report drawn up by Hon. Wm. H. Russell, upon the importance of scientific instruction in its relation to agriculture and the useful arts. After some valuable introductory observations, the following remarks occur:

"As your committee can not go into the detail of the argument, they will only say in confirmation of it, that the result of this union of science and art in some European countries has been to give to agriculture the foresight and certainty of science, and to add immensely to the ability of whole provinces to support an increased population in augmented comfort and luxury. Large tracts of land have thus been reclaimed from entire barrenness. In our own country the sandy, unproductive lands west of Albany, have been converted into beautiful farms. Tracts of land desert in our own State, have been changed into grain fields. If, as has been asserted by good authority, when the barren lands of Great Britain are reclaimed, as they will be, she can support double her present population, dense as it is; doubtless the soil of our State might thus be capable of sustaining far more than double the present number. Your committee would then ask if it is not due to the State to increase her strength by giving such aid to the successful prosecution of agriculture as shall retain at home that valuable portion of our people which are yearly drawn off to the West, under the mistaken idea that our lands are so poor that farming here must always be unprofitable; if it is not due to the sixty thousand farmers to put it in their power to stay here where the laborious and unprofitable pioneer work has already been done by their fathers, among our means of education,

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and surrounded by the comforts of two hundred years of progressive civilization, instead of sending them to augment the wealth of Western States at the expense of our own, and at the cost to themselves of the hardships, exposure and deprivations incident to the settlement of new countries."

In reference to the applications of science to the other arts, the committee remark as follows:

"Pure chemistry can not take a step that does not bear directly upon the arts. With no reference to any immediate utility, it discovered the subtle agent of Magnetism, and forthwith art in conjunction with the same science, harnessed it to do man service in carrying intelligence.

"The improved means of disengaging and working metals, the detection or exclusion of elements injurious to health, the discovery of new remedies and entire manufactures of new articles highly subservient to man's welfare, all these are among the many results of the discoveries in the first instance, of pure chemistry and other practical arts. Every house in the land has within it, and every man about him, some proof that science and art have been at work together to improve the condition of man."

The report concludes with recommending to the General Assembly a proposition for the establishment in Yale College, of Professorships of Agriculture and the Arts.

The same general subject was urged upon the attention of the Legislature in 1853, by Hon. Thomas H. Seymour, then Governor of the State. In his inaugural message he recommended the expediency of encouraging some feasible plan for promoting the study of the practical sciences, agriculture and the mechanic arts, with civil engineering, and and as he added in professional zeal, the practice of the military art.

In addition to these official recommendations, agricultural education has had various private advocates, among the foremost of whom has been John T. Norton, Esq., of Farmington, whose liberal offer of funds for the partial foundation of an Agricultural Professorship, Yale College has been

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unable as yet to accept, for the lack of means to complete the proposed endowment.

Rev. William Clift, President of the New London County Agricultural Society, has repeatedly urged this subject upon public attention, and in 1854, he made agricultural education the theme of a special address. The one thing wanted, he says, to renovate the soil and to bring back prosperity to the declining parishes of New England is scientific agriculture.

Dr. Gold, of West Cornwall, is another advocate of agricultural education. In a recent article in "The Homestead," he presents several considerations which should influence the foundation of an institution for this subject, and recommends an extended and liberal course of study, not less than four years in duration.

Professor John A. Porter has also presented a plan for an agricultural school, which might require an outlay of one hundred thousand dollars. His estimate of its value to the State, will be found in a previous article in this volume.

Among others who have presented this subject to the public at different times and in different places, Hon. Henry Barnard, Prof. Benjamin Silliman, Jr., Hon. H. C. Deming, Mr. Henry A. Dyer, and Mr. S. W. Johnson, should be particularly mentioned. The testimony of practical men, less publicly known, might also be adduced, were it not evident from what has now been said, that the importance of Industrial Education of an elevated character, has long been under consideration in Connecticut. These are but indications of an opinion which is believed to be prevalent in the State, among men of different callings and of various sympathies upon other subjects. All who have considered the subject with care are agreed that A SCHOOL OF APPLIED AND THEORETICAL SCIENCE, IS THE GREAT EDUCATIONAL WANT OF CONNECTICUT. All are agreed upon the immediate influence a scientific school would have in providing greater facilities for the intellectual advancement of agriculturists and manufacturers, as well as in promoting their mate-

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rial prosperity. It is believed that the time has now come for uniting the friends of such an enterprise and for establishing in Connecticut, an institution which shall at once do honor to the State, increase its influence throughout the country, develop in an efficient manner its rare inventive genius, extend and improve its various manufactures, make productive its rocky soil and its exhausted pastures, disclose the resources of its mines and quarries, and give an enduring character to every variety of civil constructions.

Some years ago the commencement of a Scientific School was made at New Haven. Prof. Silliman and Prof. Olmsted have always admitted to their lectures on Chemistry and Natural Philosophy, and have given private instruction to those who wished to pursue these studies without entering upon a college course. But in 1846, to meet more efficiently the wants of such students, as well as of college graduates who desired advanced scientific instruction, two new Professorships were established in Yale College, one of Agricultural Chemistry, and one of Chemistry applied to the Arts, which were filled respectively, by Prof. John P. Norton and Prof. B. Silliman, Jr. In 1852, provision was made for instruction in Civil Engineering, by the appointment of Prof. W. A. Norton as Professor of that science, and the vacancy which was made by the lamented death of Prof. John P. Norton, was filled by the election of Prof. John A. Porter to be Professor of Agricultural Chemistry.

No funds were provided for the endowment of any of these chairs, no suitable building, no collections, and not much apparatus. Still, the students who were drawn to this new department of Philosophy and the Arts were so many, as to assure the advocates of scientific instruction that the wants of the country in this respect, had not been mistaken. Such indications are continually more obvious. The number of students who became members of the scientific school at its outset, has more than quintupled in less than ten years, and the fourth department of the college, though younger than the law, medical or theological schools, outnumbers each of

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them. The attendance each year of scholars in Philosophy and the Arts,* has been as follows:

1847–48,	11.	1853–54,	53.
1848–49,	19.	1854–55,	60.
1849–50,	31.	1855–56,	63.
1850–51,	34.		—
1851–52,	31.	Total,	357
1852–53,	55.		

The expressions of interest in the success of the Scientific School connected with Yale College have been so numerous, and have come from so many persons who are interested more or less directly in the industrial prosperity of the State of Connecticut, that it has recently been decided to seek the means of enlarging the school and adapting it more completely to the wants of the country. The manufacturers, agriculturists, merchants and other citizens of the State, will come forward, it is hoped, and aid in the foundation of such an institution as the country most obviously demands. Subscriptions have already been received to a considerable amount for the advancement of this special object. In addition, the sum already invested by Yale College in libraries, cabinets and other means of instruction which may be made available for the purposes of the school, is estimated at not less than one hundred and fifty thousand dollars. If the effort which is now making to raise a corresponding amount shall be successful, the Scientific School will be placed on a sure and liberal foundation. A commodious building will be erected, museums and apparatus will be procured and thrown open, not only to the students of the school, but to all who are interested in their examination; new professors in various departments will be secured, and thus a new stimulus will be given to every branch of industry in the State.

The School of Applied Science will then be organized in not less than three distinct sections, namely, of Agriculture, Engineering and Technology, each of which will be provided

* Nearly all the students in this department have been devoted to chemistry or engineering, two branches of study which form distinct sections in the scientific school.

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with qualified instructors, and each of which will have its definite course of study.

The Agricultural Department will give such an education that farming need no longer be regarded as an empirical profession, dependent for its success upon fortunate guesses and traditional experience. The cultivator of the soil will find that there are laws of nature which it is the business of science to discover and its prerogative to reach; laws, the knowledge of which has made England and Belgium and Saxony, densely populated though they are, rich gardens, fertile as Western prairies in the grain they yield; laws, the promulgation of which among the farmers of Connecticut, would make the wilderness blossom, and the untilled field become white with the harvest. He will find that science, so often despised by the ignorant for its "abstractions," is prolific in utilities; that chemistry will show the nature of every soil and point out those means of enrichment that are needed in each particular locality; botany will teach the habits, the peculiarities and the physiology of plants and trees; zoölogy will do the same for animals; entomology will have its instructive lessons concerning those injurious insects that prey upon the wheat-field and the vineyard; and other branches of knowledge will also be brought into immediate and practical connection with the daily operations of the garden and the farm.

The Engineering Section will give, as to a great extent it now does, that instruction which will fit young men to become surveyors, architects, builders of roads and railroads, constructors of water-works, canals, reservoirs and docks, mining engineers, and indeed to enter upon any occupation in which the higher applications of mathematics are of essential importance.

The third class of wants for which it is proposed to make provision in this school of applied science, are those of the Manufacturers. Chemistry, in its relations to bleaching, useful metals and their salts, the manufacture of acids, glass and pottery, paper, starch, sugar, alcohol, gas, india rubber, &c.; Industrial Physics, including the construction of

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machinery, steam and the steam-engine, electricity and galvinism, laws of heat, light and sound; Metallurgy, including the history and modes of detection of metals, smelting and reduction of ores, chemical and mechanical operations upon metals, alloys, &c.; and Mining, in its various departments, are all subjects upon which it is hoped to provide thorough and comprehensive instruction.

Opportunity will also be given to those who wish it, for pursuing the courses of study that will fit them to be thoroughly scientific men, without reference to practical occupations.

Such is the scheme on which it is proposed to establish, in Connecticut, a Scientific School. The sum of money demanded for the object is small, when compared with the ends which are to be gained, smaller than could possibly answer were not so large an amount already invested at New Haven for kindred educational purposes. It is so large, however, that every Connecticut man interested in the object, must feel called upon to contribute according to his means, or otherwise the desired advantages will fail to be secured.

ACCOUNT OF THE QUANTITY OF RAIN WHICH FELL AT MIDDLETOWN, CT., IN THE SPRING AND SUMMER OF 1855, WITH PASSING REMARKS ON ITS EFFECTS UPON THE CROPS.

BY J. BARRATT, M. D.

	Inches.	Remarks on the Month.
March,	1.50	very dry.
April,	2.00	dry.
May,	3.14	fine and dry.

The rain fell in the most opportune manner to suit the flowering of the fruit-trees at the dates given as follows:

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May 1st,	only a few drops of rain.
8th,	0.50 inches.
9th,	0.14 "
16th,	1.00 "
19th,	1.50 "
Total,	3.14 inches.

This table, with one kept by us on the progress of flowering of the fruit-trees, will serve as an admirable illustration of the importance of fine dry weather, in securing a full crop of fruit.

June, 1855.

This has been a wet, drizzling month, and suited for the dry grounds and field-crops. It is seldom that we have so many rainy days, with the moderate amount of rain, which fell during this month, there being sixteen rainy days during the month, as shown by the following table:

	Inches.		Inches.		Inches.
1,	light rain.	12,	0.30	24, 25,	0.38
2,	0.90	14,	0.10		
3,	0.30	16,	0.60	26,	0.40
4,	0.25	19,	0.25	28,	0.60
7,	0.40	20,	0.12½		
11,	0.10	22,	0.35	16	5.05½

Had the rain fallen in like manner during the month of May, when the fruit-trees were in blossom, much of the pollen of the plum, pear, cherry and apple, would have been washed away, and consequently ruined the crop; as it is, it fell in May, in four rains only, and at such times as not to injure the blossoms, the early apple excepted; but the exuberance of blossoms this year, and their slow opening, from the 16th to the 31st of the month, made amends for some early blossoms open, and subject to rain on the 19th. The late flowering apples, not fully expanded before the 28th, or rather there was a succession of blossoms opening and perfecting their young fruit during the whole time.

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Remarks.

The canker-worms proved injurious in some orchards, that otherwise would have yielded largely. The crops of apples, pears and plums, look well at the end of June. The rain, however, keeps the cherries behind, as to the time of ripening; so with the strawberries up to the 26th of the month, owing to the want of more of the sun's heating rays. This month (June) has been remarkable for its drizzling rains, which have given surprising growth to the productions of the garden and the field.

JULY.

	Inches.		Inches.
5th, rain,	0.25	21st, rain.	
6th, "		24th, "	
7th, "	1.00	25th, " 5 days,	0.12½
11th, "	0.18	26th, "	2.00
14th, "	0.03	27th, "	0.27
18th, "	0.37	28th, "	0.20
19th, "	0.05	29th, "	0.60
20th, "	0.55	31st, "	0.45
	16 days.	6.07½ inches.	

The rain during July being drizzling like the month of June, has caused the vegetation to be exceedingly luxuriant, and has occasioned some trouble about drying the hay, and harvesting the grain in this latitude; while these rains have been of the highest importance to the Southern and Western portions of this country, and insured an abundant wheat-crop, said to be the largest ever grown in this country.

To this period or the beginning of August, the Indian-corn is tall and luxuriant. It remains to be seen how it will yield at the end of the season.

Lima beans, cucumbers, squashes, &c., are luxuriant; so far every thing contrasts strikingly with the dry condition of the earth in the summer of 1854.

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AUGUST.

	Inches.		Inches.
2d, rain,	0.20	17th, drops.	
6th, "	0.12	23d, rain,	0.23
7th, "	0.25	26th and 27th,	1.35
9th, "	0.10		
		Total inches,	2.25

SEPTEMBER.

	Inches.		Inches.
16th, rain,	0.06	27th, rain,	0.25
18th, "	0.20		
21st, "	0.08	Total inches,	0.59

The month of September is exceedingly dry. It is seldom that so little rain falls as here given, that is, *half an inch* through the month, and back to August 27th.

OCTOBER.

	Inches.		Inches.
1st, rain,	0.85	12th, rain,	2.50
2d, "		14th, "	0.30
3d, "		20th and 21st,	0.62
4th, "	0.20	23d, rain.	
5th, "		24th and 27th,	2.09
6th, "	1.10	28th, rain,	0.20
	14 rainy days.	7.86 inches.	

This abundance of rain has filled the streams and small ponds, and gives a full supply to the factory streams, which had suffered of late from dryness.

Classification of the Spring Seasons, from Observations kept at Middletown, Ct., from 1837 *to* 1855.

BY J. BARRATT, M. D.

The flowering calenders, kept for a number of years, have enabled me to draw up and present the following classification. The year 1839 may, and has been assumed, as a standard season for regularity, although it was properly an early season.

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1st. The early seasons are as follows:

1840.
1842.
1844. Spring and Summer dry.
1845. Hot.
1846. Wet.
1848.
1851.
1853.

2d. Very late Springs.

1837. Wet and cold.
1838.
1841.
1843. Fruitful.
1847.
1849.
1850. The rain which fell in May was $12\frac{7}{100}$ inches, or about the average of four month's rain in one.
1852. Dry.
1854. Wet.
1855. Dry in March, April and May.

It thus appears that the early spring seasons, contrasted with the late, are as 8 to 10, but if we include 1839 with the early springs, they will be found to be very nearly balanced.

The view here presented is, I believe, novel. Our materials are, however, too scanty for a satisfactory explanation of the movements of the seasons.

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HARTFORD

COUNTY AGRICULTURAL SOCIETY.

In consequence of the Connecticut State Agricultural Society holding its Second Annual Fair in the City of Hartford during the month of October, 1855, the County Society omitted its usual annual exhibition, and the influence of its members was exercised in behalf of the State Society.

The county was well represented, and in its Agricultural and Horticultural Products, Manufactured Articles, specimens of the Fine Arts, and Domestic and Ornamental productions, it was not second to any county represented in the Exhibition.

The resources of Hartford County are great, and if we could have a full exhibition of its numerous and valuable productions, representing every branch of Agricultural and Horticultural Science, the Mechanic Arts and the Fine Arts, together with a liberal display of the various choice breeds of Stock, raised in our midst, we could without fear challenge any county in this or any other State in the Union, to compete for any prizes that might be offered.

We do not make this assertion to disparage our neighbors, but to let our own people know what the resources of the county are, and to impress upon their minds the necessity of cultivating the means at their command to the utmost, assuring them that if they but do their duty, the future will be a bright and glorious one, and wealth, prosperity and happiness everywhere abound.

Every Agriculturist, every Mechanic, every Artist and every Artisan in our midst, should feel a strong interest in

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the yearly exhibitions of the Hartford County Society, and do their best to prepare something to show their skill, and the excellence they have attained in their respective callings. None should be deterred from sending in their mite by the fear of not receiving a premium. The premiums in all cases should be a *secondary* affair, for the same reason that we should always do right from the love of it, not for the reward, which surely follows a right course of conduct. Premiums are valuable, so long as they stimulate to higher endeavor, and are given as an acknowledgment of positive merit, not as its reward.

Every exhibitor should feel it a privilege to be enabled to lay before a discerning and discriminating public, the result of deep study, thorough culture, or well-directed artistic effort; and if in some cases the awarding committee should not prove as discriminating as the public, and pass by merit and acknowledge mediocrity, conscience will assert its right, and the satisfaction of well doing, and talents rightly improved, will calm all troubled thoughts for the present, and the reward will come at last, and though the day may be distant it will surely come.

Let every one then strive to contribute something worthy of admiration and reward, both to our State Fair Exhibitions and also to those of the Hartford County Society.

These exhibitions are intended for the general good, and if entered into with an intelligent understanding of their object and their aims, and with a right spirit, seeking improvement and the good of all, rather than a paltry premium. If entered into with such motives and such noble ends in view, the influence of these gatherings will be of incalculable benefit to the Agricultural, Commercial, Manufacturing and Artistic interests of the County and of the State.

And let each one endeavor, not only to surpass others in their respective callings, but also to surpass themselves, ever remembering the beautiful and truthful proverb,

"*Labor omnia vincit.*"

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The Annual Meeting of the Society was held at the City Hall in Hartford, on Wednesday, the 5th day of December, 1855, at 10 o'clock, A. M.

The following persons were chosen officers for the ensuing year:

JAMES T. PRATT, Rocky Hill, President.
N. W. STANLEY, New Britain, 1st Vice-President.
JOHN E. COWLES, Farmington, 2d Vice-President.
FRANCIS GILLETTE, Hartford, Corresponding Secretary.
F. A. BROWN, " Recording Secretary.
A. W. BUTLER, " Treasurer.
H. L. BIDWELL, " Auditor.

F. A. BROWN, *Secretary.*

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FAIRFIELD

COUNTY AGRICULTURAL SOCIETY.

This Society continues to prosper, and its influence appears to be felt throughout the country, yet the premiums offered are mostly taken by persons living in the towns adjacent to the one in which the Fair is held.

The plan of changing the location of a fair every year or two, I think to be a good one, as we wake up a new list of competitors, while many of the former ones will remain with us. An article in the constitution of our Society entitles to life membership, those who contribute ten dollars at one time. Twenty-seven life members have been added the past year, making the whole number at present, one hundred and six. For several years our Society have voted to hold the Fair in the town which will raise the most money, proportionate to its inhabitants, consequently it is not confined to the largest towns; it gives all an equal chance, creating a spirit of rivalry, and the Agricultural Society reaping a part of the benefit.

The inhabitants of Norwalk contributed eight hundred dollars to the Society the past year and the Annual Fair and Cattle Show was held in that town the last week in September. The exhibition was judged to be the best ever held in the county, and was not far behind some of the State Shows in many of its departments. A large crowd of persons were in attendance through the Fair, which made it appear as if people were desirous of seeing the improvements of others, and we doubt not, would return to their homes

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disposed to practice some of the lessons ever to be learnt by attending such annual gatherings.

The Society offered eight hundred dollars in premiums, for which there was a spirited competition. About one thousand entries were made on the books of the Secretary.

The Society would be more efficient, if the various competitors would make their statements more full of particulars in regard to expenses incurred in cultivating a crop, rearing an animal, or maturing any article presented which is considered an improvement on the former methods, for improvements should be the design of an Agricultural Fair.

The total receipts of the Society for the past year, including $200 from the State Treasury, - -	$2,107.17
Expenses in premiums, &c., - -	1,667.01
	$440.16

Hon. THOMAS B. BUTLER, the worthy and efficient President for the past year, has been re-elected to the same office.

JOHN H. SHERWOOD, Southport, Recording Secretary.

EDWIN HOYT, New Canaan, Assistant Secretary.

A. H. BYINGTON, Norwalk, Corresponding Secretary.

JONATHAN CAMP, Norwalk, Treasurer.

JOHN H. SHERWOOD.

MANUFACTURING INTERESTS IN FAIRFIELD COUNTY.

HENRY A. DYER, ESQ.:

DEAR SIR: Since the receipt of your favor, desiring some statistical account of the various manufacturing interests in this county, I have devoted myself to the furtherance of your request, to the best of my ability, and am sorry to report an almost entire failure, in obtaining anything more than a *general statement* of the *amount* and *kind* of such manufactories. The proprietors of many establishments expressed a hesitation, for various reasons, of making public the details

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of their affairs, and being unable to procure *positive* data from the more important, I have contented myself in giving instead, a sort of general summary. In this, also, my statement is far from satisfactory to myself, as it can not do full justice to the capital and skill of our county. This has arisen from my inability to visit in person, each town in the county, or to obtain satisfactory and *reliable* information from correspondents. I look upon this new feature which you propose to introduce into your annual report, as a very important one, and to the end of reducing it to a system throughout the State, I would suggest the propriety of getting up a suitable set of blanks, with classifications, questions, &c., appended thereto, to be sent out by the State, to each County Society, and by the latter transmitted to some one of its members in each town, to be filled out and returned to the Secretary of the State Society. This plan is entirely feasible, and would add very materially to the value and interest of the annual report. The mere "bird's eye view," which I submit below, if of sufficient interest to fall within the spirit of your desire, you are welcome to use or not, as you see fit.

Commencing with *Fairfield*, a quiet and beautiful town, lying on the shore of the Sound, between Westport and Bridgeport, it has but few manufactories. One Saddle-tree Factory, Carriage Factory, &c., and about $5,000 invested in manufacturing purposes. Ship-building, however, constitutes quite an important feature in the business interests of the town, and several fine ship-yards, with an excellent harbor, exist at Black Rock, in this town.

Bethel, (set off from Danbury, as a new town, by the last legislature,) is a thriving inland town on the Danbury and Norwalk Railroad, engaged principally in the manufacture of Hats. They have at the present time, SIX HUNDRED MEN employed in the hatting business. The heaviest manufacturer is Mr. Orrin Benedict, employing one hundred hands. There are also Messrs. N. Seeley, J. & C. B. Ferry, S. A. & W. C. Hickok, Edwards & Keeler, E. T. Farman, and the "Shanghae Hat Factory," &c. The manufacturing interest

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of this town is almost wholly confined to the making of hats. Estimated capital invested, about $150,000.

Bridgeport, the only city of Fairfield county, and with Danbury, forming the county seat, is extensively engaged in many and various manufacturing enterprises, the extent and kind of all of which I am not able to report. The Tomlinson Patent Wagon Spring Perch and Axle Company, do an immense business, employ a large number of hands, and a capital of about $100,000. There is also a large Silver Plating Establishment; Messrs. Calhoun & Co's extensive Saddlery Establishment, manufacturing riding saddles for all parts of the globe; several large Iron Foundries, Machine Shops, &c.; a Manufactory of Northrop's Power Printing Presses; a Steam Engine, Boiler and Faucet and Tool Factory; a Patent Umbrella Factory; a large Shirt Manufactory; a Paper Mill; Sash and Blind Factories; a Stair-Rod and Pillar and Banister Factory, &c.; several Carriage Factories; the Jerome Clock Company, (now unfortunately suspended,) together with many other smaller establishments, all busily engaged in manufacturing the various articles of trade and commerce. The number of persons employed in these various departments of creative enterprise, I am unable to learn, as also the amount of capital employed; but the former must undoubtedly enumerate thousands, while the capital actively employed, must reach at least $1,000,000. The Bridgeport Standard has just given the grand list, which as it contains some items bearing upon this subject, I will here introduce it.

The grand list of Bridgeport amounts to $252,207, being an increase of $32,000 over the last year. The following are some of the items of taxable property:

Value of dwelling-houses, - - -	$2,929,920
Stores, - - - - -	654,775
Land, - - - - - -	961,186
Factories, - - - -	464,475
Amount in trade and mechanical pursuits,	735,467
Vessels and commerce, - - -	80,540
Money at interest, - - -	344,851

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Brookfield, a thriving town on the Housatonic Railroad, has a Wool Hat Factory, Straw Paper Factory, Combs, Leather, Tannery and Knife Factories, employing a capital of some $20,000.

Danbury, a beautiful inland town, the terminus of the Danbury and Norwalk Railroad, is the great focal center of the hatting business in this county, if not in this country. Among the largest of these factories are those of Messrs. Montgomery & Benedict, who manufacture one hundred dozen wool hats per day; H. L. Sturdevant, one hundred dozen wool hats per day; Wildman & Crosby, wool hats, fifty dozen per day; Tweedy & White, fur hats, (principally soft hats,) seventy-five dozen per day; Tweedy, Crofut & Co., fur hats, fifty dozen per day; E. A. Mallory & Co., Lutton & Wildman, and G. M. Hoyt, all engaged in the manufacture of fur hats; A. Chichester in that of silk hats; W. A. & A. M. White, from wool bodies; A. T. Peck, extensive Comb Manufactory; Joseph Rodgers, manufacturer of Parchment, and Danbury Carriage Company, a joint stock company, with a capital of $10,000, and manufacturing carriages for New York market and the South. The amount of capital invested in the hatting business can not be far from $150,000, and the number of persons employed is estimated at over 1,300. The heaviest manufacturers are Tweedy & White, employing 300 hands. The five heaviest employ 905 hands.

Darien, on the New York and New Haven Railroad, between Norwalk and Stamford; the population is principally devoted to agricultural pursuits; but about $4,000 are invested in manufactories of any description, and of course little is done.

Easton does little in the way of manufactures. Has one Axe Factory, Carriage Factory, Boots and Shoes, &c., but only some $2,000 invested in all.

Greenwich, on the New Haven Railroad, is extensively engaged in the Iron business. Has one Iron Rolling Mill, one Wire Rolling Mill, one Screw Factory, one Edge Tools Factory, one Felt Cloth and Hat Factory, &c. Capital invested, about $40,000.

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***Huntington*, an inland town; people principally devoted to agriculture. One Carriage Hub Factory, one Steel Joint Factory. Capital, $6,000.**

Monroe, much like Huntington; has one Cotton Twine, and one Carriage Factory. Capital, about $3,000.

New Canaan, five miles north-west of Norwalk is as famous for the manufacture of Boots and Shoes, as Danbury and Bethel are for Hats. This town is the Lynn of Connecticut. Manufactures principally for the South, and gives employment to great numbers of men, women and children. Capital invested, about $50,000.

New Fairfield does but little manufacturing, and has but about $3,000 invested.

Newtown, one Satinet Factory, one India Rubber Factory, one Button Factory, one Screw Factory, one Machine Shop, Hat Shops, Comb Factories, &c. Capital invested estimated at $75,000.

Norwalk, the locality where the last and most successful Annual Fair and Cattle Show of the Fairfield County Agricultural Society was held. Principal manufacturing interest that of Felt Cloths, some very fine specimens of which were exhibited at your late State Fair. The Union Manufacturing Company is the largest establishment, employing about 150 hands. They turn out about 1,000 yards of cloth per day. Capital stock nominally, $100,000, although a quarter of a million of dollars is now employed in its various operations; 500,000 pounds of wool consumed and $25,000 paid annually to workmen. Lounsbury, Bissell & Co's Factory employ about 100 hands, and turn out some 600 yards per day. Capital stock, $100,000. One Paper Mill, which manufactures a very superior quality of News and Book Paper; two or three Fancy Turning Factories where Mahogany and Rosewood, ornamental Beading, and Knobs are turned for furniture and musical instruments; one Shirt Factory, employing several hundred girls and women, and manufacturing very largely for New York and Southern markets; one large Stone Jug and Jar Factory; several factories manufacturing Mineral Door Knobs; one Ma-

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chine Shop; one steam Sash, Blind and Door Factory, Planing Mill, &c.; three Carriage Factories; one Gold Chain and Seal Manufactory; one Soap Factory; one large machine Hat Manufactory, and seven "old style" do.; one Bedstead and Chair Factory; one Bone Dust Mill; one Poudrette Factory; one Leather Dressing Factory; four Tin and Sheet Iron Factories; two Saddle and Harness Factories; one Daguerreotype Case Factory and Chemical do., and while I am now writing, a meeting is being held to locate the American Lock Company at South Norwalk, the capital stock of which ($50,000) has been subscribed, and in the course of a few months we expect to see that establishment (which employs about 100 hands) in full blast. Norwalk is noted as being the first town in the State or country, where a superior quality of pelt cloths were successfully manufactured. The capital stock employed in all these enterprises amounts to very nearly half a million of dollars.

Redding is engaged principally in the manufacture of boots and shoes, carriages, sleighs, hats, combs, burning lime, &c. Capital employed, $25,000.

Ridgefield. Engaged principally in manufacturing furniture, hats, shirts, boots and shoes, carriages, tanneries, &c.; also, one large patent Candlestick and Bed Clasp Factory, by J. W. Rockwell. Capital employed, about $10,000.

Sherman. Little manufacturing done in this town. One tannery, boots and shoes, &c. Capital about $2,000.

Stamford, a beautiful and thriving village on the line of the New York and New Haven Railroad, some thirty-six miles from New York city. Two of the finest and most successful annual exhibitions of our County Society were holden here, during the years 1853 and 1854. Considerable attention is paid to manufacturing, and a large capital is invested in its various businesses. Rippowam Company, one of the largest Stove Factories in the State, Stove Foundries, one Steel Furnace and Machine Shop, Rolling Mill, two Wire Mills, Planing Mills, several Spice Mills, Resin Oil Factory, Shirt Factory, Fire Brick Factory, Furniture Factory, large Carriage Factory, Tin and Sheet-iron Factory,

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Boots and Shoes, Leather, Saddles and Harness Factories, one Gas *Factory*, from which the private residences and public streets of the town are beautifully illuminated. Capital invested estimated at $250,000.

Stratford. Little done in manufacturing; one Saddle Tree, one Carriage Factory, boots and shoes, &c. Capital employed, $10,000.

Trumbull, a fine inland town; people mostly engaged in agricultural pursuits; three Carriage Factories, one Saddle Tree Factory, two Paper Mills, boots and shoes, &c. Capital about $20,000.

Weston. But little manufacturing done in this town. One patent Axle Factory, one Axe do., several Boot and Shoe do. Capital, about $5,000.

Westport. Adjoining Norwalk on the east. Quite a stirring little manufacturing town. Several large Foundries, casting Car Wheels, &c.; India Rubber Car-Spring do.; four Cotton Factories manufacturing Yarn, Wadding, Batting, Twine and Ropes; Cotton Prints, Morocco-dressing Factory, Enameled Leather do., one Saddle-tree do., Tanneries, five Boots and Shoes, Tin and Sheet-iron, Telescopes and Engineer's Instruments, Carriages, Furniture, &c. Capital Stock employed not far from $150,000.

Wilton. Principally an agricultural community, and noted for its numbers of fine red Devon working cattle. Has one Screw Factory, one Hoe and Potato Hook do., one Axe do., one Carriage do., one Sleigh do., one Hub do., one Soapstone Paint do., one Button do. and one factory appropriated to Chemical works for compounding Medicines; three Hat do., one Sash and Blind do. The largest manufacturers are Messrs. Gilbert, Bennett & Co., located at "Georgetown," so called, in this town, and a romantic and pretty portion of the village, situated in the valley of the Norwalk River, on the Danbury and Norwalk Railroad, at an equal distance from each place and near the junction of the towns of Ridgefield and Redding with Wilton, has arisen to the dignity of being in reality the only "village" of the town, and is indebted principally for its wealth and prosperity, to Messrs.

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G. B. & Co. Their factories comprise three large buildings in Georgetown, with one Wire-drawing establishment in Redding, and another in Wilton proper. They are extensively engaged in manufacturing Curled Hair, Glue, brass, iron and hair Sieves, Riddles, brass and iron wire-cloth Cheese Safes, Screens, Dog and Ox Muzzles, and almost every variety of articles made from wire. They employ a large number of hands, and send their goods to almost every part of the United States, and even to foreign countries. They probably make as many, if not more articles in their line of business, than any other establishment of the kind in the country, and may truly be called the pioneers of the Wire-cloth Sieve, Riddle, Cheese-Safe and Ox-Muzzle business, as they were doubtless the first engaged in making those articles in the State, and a large proportion of the goods of this description in market comes from their factories. Capital employed in the entire town, probably from $75,000 to $100,000.

This ends the list of towns in our county, and although not strictly perfect in its minutia, it is perhaps sufficiently so for the purposes you have in view, or what would be better, sufficient to incite others to furnish you a *perfect* summary for the next volume of your report. Before closing, however, I can not refrain from mentioning the very great impulse given to the manufacturing as well as agricultural interests, by the competition generated by annual State and County Fairs. It would be entirely within bounds of actual facts, in my opinion, to state that the grand list of this county has been increased twenty-five per cent. as a result of the improvements in Agriculture, Manufactures, Implements, Stocks, &c., first exhibited, suggested and drawn out at our Annual Fairs, and directly traceable to these exhibitions.

Yours, &c.,

A. H. BYINGTON.

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WINDHAM

COUNTY AGRICULTURAL SOCIETY.

Organization of the Windham County Agricultural Society for the year 1855.

President, CALVIN D. WILLIAMS, Pomfret.
First Vice-President, HENRY A. DYER, Brooklyn.
Second do. EZRA DEAN, Woodstock.
Third do. DAVID GALLUP, Plainfield.
Corresponding Secretary, ALBERT DAY, Brooklyn.
Recording Secretary, JAMES B. WHITCOMB, Brooklyn.
Treasurer, JOHN GALLUP, 2d, Brooklyn.
Auditors, OLNEY TANNER, WM. H. PUTNAM.

Standing Committee, PERRIN SCARBOROUGH, Brooklyn; LUTHER D. ALEXANDER, Killingly; ASA T. CHILD, Woodstock; JOSEPH GILBERT, Pomfret; PATRICK H. PEARL, Hampton; LUCIUS CARTER, Canterbury; ELKANAH C. EATON, Plainfield; JOSEPH DORSETT, Jr., Eastford; DYER H. CLARK, Ashford; GEORGE C. MARTIN, Chaplin; JAMES M. JOHNSON, Windham; BENJAMIN GALLUP, Jr., Voluntown AMOS J. GALLUP, Sterling; BENJAMIN F. HUTCHINS, Thompson.

Report of the Transactions of the Windham County Agricultural Society, for the year 1855.

By the Constitution of the Society, the annual meeting is held the 1st Wednesday in December, and quarterly meetings of the Executive Committee, the 1st Wednesday in March, June and September.

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At the quarterly meeting of the Executive Committee, held in March, it was resolved that a Cattle Show and Fair be held in Brooklyn on the 19th and 20th days of September, and voted $1,070 to be paid in premiums; that the Show and Fair be upon inclosed grounds, and that mileage be offered under certain regulations, at the discretion of a Sub-Committee of the Executive that were subsequently chosen, consisting of James B. Whitcomb, Albert Day and Edwin Newbury.

A contract was made by them for inclosing about six acres of ground with a board fence ten feet high, at a cost of $100. Mileage was offered upon all animals for which a premium was not awarded and which were considered as creditable to the Exhibition, for any distance over five miles from the place of the Show; and feed to be provided for the animals at the expense of the Society during the Exhibition.

Show bills were issued and circulated in the several towns in the county and adjoining counties and States, and a large number of premium lists with the classes and committees, the rules to be observed by contributors and general regulations of the Society.

Gen. Lloyd E. Baldwin, Col. Horace Sabin, Col. Amos Witter, and Major Andrew C. Lester, were appointed Marshals, who acquitted themselves in a satisfactory manner.

The Cattle Show and Fair was upon ground owned by Adams White, Esq., about one-fourth of a mile south of the village. The Exhibition of Cattle and Horses was much larger than at any other Show of the Society; the fine training of the animals, their beauty of form and color, with their general adaptation for business, made this part of the Show very attractive, and drew together a large number of people.

The Plowing Match was upon ground generously offered by Dr. James B. Whitcomb. The work was done well, but it was much regretted that so few teams contested for the premiums, when so many fine yoke of oxen and pairs of matched horses were exhibited.

The show of Sheep, Swine and Poultry, though not large, was very creditable to the Exhibition and owners, showing a

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decided improvement in their general character since the first Exhibition of the Society.

The Fair was under a large tent procured for the occasion of E. C. Williams, of Rochester, N. Y.

Of Fruit and Vegetables there was a great variety. Perhaps there is no county in the State that excels this in the quantity and variety of apples. It is enough to say that it was universally admired. The Floral department was, considering the severe drought at the time, very rich. Contributions from the conservatories of Edwin Newbury and Miss Emily Brown, were beautiful.

Of the Fancy Articles, Paintings, &c., much might be said; and the exhibition of them would have been much larger, had it not been for fear of their being spoiled by the dust. Most, however, showed that a great amount of labor had been expended on them by skillful hands.

The county excels in nice Cheese and Butter, and the producers of these articles made as fine a show of them as could have been wished for; the entries were numerous and this department *rich*.

The Mechanical Department was not as full as it should have been. The exhibitors however showed the highest degrees of skill and workmanship, and it was much regretted that this portion of the industry of the county was so poorly represented. In mill manufactures there was a great improvement upon former exhibitions. Specimens of cotton and woolen goods showed the finest of fabric and the best of workmanship.

The Address was delivered by the Rev. A. H. Vinton, D. D., of Boston. Of its merits I need not speak. It was listened to with the most marked attention by a crowd of ladies and gentlemen eager to catch the eloquent words as they fell from the orator's lips. At the conclusion of the address, Peleg C. Child, Esq., of Woodstock, offered in substance the following resolution:

Resolved, That the thanks of this Society are eminently due the reverend and learned gentleman for the able and *more*

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than able address now delivered, and that a copy of it be requested for publication.

In accordance with this resolution, I have requested and obtained the manuscript, which accompanies this report.

Short speeches were made at the table by Ex-Governor Cleveland, Gen. James T. Pratt, and others, expressing their entire satisfaction at the beauty and attractiveness of the Exhibition. There is one difficulty the Executive Committee have had to contend with that should be remedied. Few of the entries are made until the morning of the Exhibition, and in the confusion and trouble consequent upon it, nearly half of the day is wasted in preparations that could have been easily made the day before.

The Society was re-organized about five years ago through the influence of some of the enterprising citizens of the county, and has held a Show and Fair in the autumn of each year. At the first Show and Fair, about $480 was offered to be paid in premiums, and was decidedly a happy effort, considering the disadvantages, *viz.*, want of funds and some old fogyism to contend with.

The cattle, &c., were inclosed with rails borrowed from the farmers in the vicinity. The Society is now the owner of one hundred nice framed pens, built by subscription, at a cost of about $400. There are now three hundred and fifty annual members and one hundred and sixty-nine life members, with a fund of $845, invested in the Savings Bank in Norwich, the interest of which is available for expenses each year.

Thus it will be seen that the Society is fairly established; that it has been steadily increasing in numbers and influence; that more than double the amount is offered and paid in premiums, and that the public are abundantly satisfied of the healthful influence of such institutions, and cheerfully contribute to their support. Much is due to the influence of the State and County Societies, for the marked improvement in the Agricultural, Mechanical and Manufacturing interests of the State. I think that it can be asserted with safety, that the agricultural interests have been advanced within the last

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four or five years at least ten per cent. A few instances will suffice in corroboration of this statement. In a single town of the county there are from thirty to forty barns, varying from sixty to one hundred and twenty feet in length, with cellars under the whole, in which from two hundred to three hundred loads of manure is composted yearly, and many others in various parts, of similar dimensions, with preparations for new ones the coming season. It needs no argument to prove the benefit of this over the system (if it can be called so) of throwing the manure out of the windows and doors, to be wasted in the atmosphere or a neighboring stream. The same improvement is visible in the other operations of the farm. Corn is sowed to be fed in a green state; the ground is more thoroughly cultivated, consequently larger crops. Since the formation of the State and County Societies, a number of thorough-bred animals have been introduced into various parts of the county, sheep, swine, bulls and cows, and most of these animals of superior merit; and the march of improvement in this line is *onward.*

The Mechanical interests of the county is extensive and constantly on the increase. Boots and shoes are manufactured extensively for market. Bard & Brothers manufacture Gold Pens extensively, of the finest quality. Gold and Silver Watch-Cases, of the most beautiful finish, are made in great numbers by Preston & Jacott, and the largest manufacturer of Gold and Silver Spectacles in the State, is Edwin Newbury, of Brooklyn; and some very fine Carriages are made by L. M. Dean, of Woodstock, and sold in different parts of the country. The capital invested in Cotton Mills, and the amount of cotton goods manufactured, exceed the aggregate of all the rest of the State, some of which are of the finest quality and nicest finish.

ALBERT DAY,

Cor. Sec. Windham Co. Ag. Soc.

Brooklyn, June 9th, 1856.

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Treasurer's Report.

Dr. LIFE MEMBERS' FUND, WINDHAM CO. AG'L SOC., *in account with* JOHN GALLUP, 2d, *Treasurer.* Cr.

To Deposit in Norwich Savings Society,	$800.00	1855.	By Cash received of 169 Members, at five dollars each,	$845.00
" E. P. Kenyon's Note,	25.00			
" Cash on hand,	20.00			
	$845.00			

Dr. WINDHAM COUNTY AGRICULTURAL SOCIETY, *in account with* JOHN GALLUP, 2d, *Treasurer.* Cr.

To amount paid Premiums awarded, 1854,	$335.75	1855.	By Balance of account, December 20th, 1854,	$605.54
To Cash paid A. Payne, Esq., expenses, &c.,	15.00		By Cash of Annual Members, 1854,	5.00
" " J. A. Spalding, printing post-bills, &c.,	23.00		" of J. K. Logee, for use of ground at Fair,	5.00
" " E. P. Harris, balance due for cattle-pens,	35.50		" for Admission Tickets at Fair,	275.01
" " E. C. Williams, use of tent,	60.00		" of State Treasurer,	200.00
" " A. White, use of land,	10.00		By Interest on loan and deposit,	39.69
" " Premiums awarded, 1855,	118.25		By Cash of Annual Members, 1855,	323.00
" " G. & D. Taylor & Co., ribbon for badges,	12.67		" of A. T. Child, for Members, (no names,)	2.00
" " Sundry expenses for labor, team-work, keeping cattle, lumber, cloth, pails, printing badges, &c.,	120.56		" of J. B. Whitcomb, do. do.	12 00
			" of L. D. Alexander, do. do.	10.00
				$1477.24
Amount paid past year,	$730.73			
Cash on hand to new account,	746.51			
	$1477.24			

Respectfully submitted by

JOHN GALLUP, 2D, *Treasurer of Windham Co. Ag. Soc.*

December 19th, 1855.

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ADDRESS,

DELIVERED BEFORE THE

Windham County Agricultural Society,

AT BROOKLYN, CONN., SEPT. 20, 1855,

BY THE

REV. ALEXANDER H. VINTON, D. D.,

OF BOSTON.

Mr. President, and Gentlemen of the Society:

I AM not a farmer nor the son of a farmer, and if any one should ask what were my qualifications for the post of orator of the day, I could name only these two—first a very decided taste for country life, and secondly your invitation. Still my case stands not alone. I have often observed that the speakers to farmers are not often themselves farmers. Why is this? Why is it that the orators of agricultural associations are usually selected from the wide world of outsiders? I suppose the answer must be, because agriculture, in some of its forms, is a thing of world-wide interest. All sorts of men and all sorts of minds find something in rural pursuits to engage their delighted regard. Poets love to see nature, not only natural, but embellished with crops and the garniture of fields.

Painters have made fortunes and fame together, by taking the farmers and the farm-yard for their subjects. The scholar has studied best, and the author has written best, when he has come steaming and streaming from the hard, hot toil of the plow and the hay-fork.

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Merchants, stived in their eight by ten counting-rooms, calculate their voyages by the prices of the farmer.

Stock-brokers and bankers speculate with their cent. per cent. and foreign exchange, accor ing to the harvest.

Statesmen in council regulate their grand national projects by the crop.

In the city palace, where a family dwells in stiff and solitary grandeur, and in the city den, where three families herd together in one room, from the father who provides, to the children who are provided for—the stately millionaire to the little newsboy trotting in rags, all are interested in the farmer's labor and its fruits, from flour and provisions, down to apples, maple-sugar and pop-corn.

Commerce loads her ships for all ports, with just what agriculture empties from her cornucopia. If she sometimes takes on board an invoice of cotton cloth or Connecticut clocks, it is only because the farmer feeds the clock-maker, and because he does not choose to wear all the shirts that can be made.

Peace, smiling Peace, what would she be without her twin-sister Plenty. And War, grim visaged, imperial War, its mighty sinews are not money but biscuit. The Allies would not have filled so many thousand graves, if they could have tapped the Russian cribs; and Sebastopol would have fallen long ago, if they could have cut off the Russian crops.

Is it not true then, Mr. President, that agriculture constitutes the grand material interest of human life, of the world. But why do I say the *material* interest? Is it not agriculture, the very mother of the world's social and civil advancement? It was man's oldest and earliest employment. It was his occupation when he and the world together were pronounced very good. The first farmer was our first parent, for, as Lord Bacon says, "God made the first garden, and gave it to man to dress and keep it." Gardening, it is true, is not farming, at least many of our farms are not gardens, yet they differ only in degree. Horticulture is only the exquisite form of agriculture. The farm is Nature dressed in

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her kitchen apron; the garden is Nature robed and jeweled for the parlor.

This fact that the first and perfect man was made to dwell in a garden may furnish a hint of what is his most perfect social state. It shows us that rural life is best fitted to develop man, and all history flows in the wake of that one thought.

The first institution of civilization sprang from agriculture. The cultivation of the earth made man a fixture among his own chosen acres, introduced the rights of property, created the consequent necessity of laws, inspired the love of law and order and with them inaugurated the institutions of education and religion which nourish and support these high principles of civilization. To the city indeed we are apt to look for the highest forms of human advancement, and there no doubt we find an intenser power of humanity and more striking illustrations of man's social nature. But all the keen-wittedness of a city-bred man, and the smoothness which comes from collision with other men, can not compensate the loss of the simple, genuine, stalwart qualities, which are inspired by the divinity of the country.

The first city, let us not forget, was at the tower of Babel, and ever since it has been true, as Cowper says, that "God made the country and man made the town."

When we consider then the evident design of the Creator, that our race should be occupants of the country—when we remember that this has always been the fact—when we look around and see nine-tenths of our own active, enterprising, American people gaining their livelihood by agriculture, who can help feeling an interest in this prime work of man's life on earth? Who can fail to ask how far agriculture, as man's great art and occupation, has developed its capabilities? These are thoughts which stir other minds besides the farmer's; inquiries which a man may make who never held the plow.

These, therefore, may be legitimate topics for an agricultural address, and to some of them I wish to direct your attention.

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What is agriculture? What is our American agriculture? What may it be made, and how?

These questions suggest materials for a volume of Patent Office Reports; but it is not my purpose to be so voluminous on this occasion.

What then is agriculture? A definition sometimes cracks the shell of a subject and opens its whole pith and kernel.

Agriculture—the culture of the field. The very term *culture*, implies something artificial; something not allowed to spring up and grow, as accident or nature dictates, but produced, stimulated, trained according to some definite purpose and intelligent plan. Just in proportion as nature is let alone, in that same proportion does she run back to wildness.

Agriculture, then, supposes the action of mind in making use of the productive powers of nature.

It supposes an acquaintance with the properties and laws of matter; such skill in applying that knowledge as to produce results which nature by herself would never produce, and such prudence and ingenuity as that the labor shall not be worth more than the product.

Agriculture, then, has a three-fold character. It is a science. It is an art. It is a trade. He who knows so much of nature's laws and properties as to pronounce what can be done by cultivation, is a scientific farmer. He who knows how to do it is a practical farmer. He who produces the maximum result at the minimum cost, is the economical farmer. He who does all three is the complete farmer.

When I speak of agriculture as a science, it is not that it has a separate and distinct rank among other sciences, but that it is the mistress and queen of them all.

Comprehending as it does the great work of subduing and fertilizing nature, it subsidizes every department of knowledge that has any connection with nature. It takes a leaf out of the book of geology, and has learned several valuable lessons by peeping underneath the covering of that God-written history of the earth.

Agriculture again has exacted tribute of mineralogy, and

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has sometimes saved money by knowing the difference between limestone and silex. Natural philosophy has paid her tribute to agriculture, in the shape of water-rams, and drains, and horse-powers. Botany has taught her the principles and laws of vegetable life, and how to cross her breeds or keep them pure. Entomology has lit its candle and introduced her to the domestic manners and habits of weevils, borers and caterpillars. It is not quite time yet to say how much agriculture has been aided by astronomy; but if it shall be determined satisfactorily that pork shrinks in the pot, or timber takes on decay according to the time of the moon, then so much at least of astronomy will be necessary to the farmer as to teach him when that luminary is in her growth or wane. Perhaps for this object he will need no other text-book than the almanac.

But the science upon which, beyond all others, agriculture leans, her right-hand man, her mentor, teaching her the very A B C of intelligent farming, is chemistry—the knowledge of those laws which regulate the interior changes of substances. Chemistry is the minute analysis of the universe. It resolves all things into their elements, shows us the affinity by which elements are drawn together to form the substances before our eyes, explains the constitution of our soils, interprets the changes that take place in earth or plants under natural or artificial influences, determines the constituent parts of various crops and the fertilizing elements of air or water or manure. A science that can do all this, can do a great deal for agriculture, and agriculture, led by such a science, may well claim the dignity of being scientific.

But let me not arrogate too much even for such a helpmeet as this to the farmer. Chemistry is not omnipotent. There is a certain power and principle in nature which chemistry can neither grasp nor discover, *viz.*, the principle of life. Whatever it be, in animal or vegetable, there is something in the living plant, as well as in the living animal, which overrides and overrules all the laws of chemistry. It operates in a way we can not understand. We can not weigh it in scales, can not test it by acids, can not dissolve, nor triturate,

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nor burn it. It has no parts, leaves no residuum. No man knows at this day what that vital principle is, or wherein it consists. It is the hidden power of Omnipotence, understood only by Him to whom Omnipotence is a conscious and eternal attribute.

Chemistry reveals the laws and affinities of matter indeed, yet only of dead matter. The moment the vital principle enters into a substance, the laws of chemistry are suspended, and when life is gone out, chemistry can not light its candle again.

Chemistry can analyze, but not create. Its work is dissection. Its laboratory is an anatomical chamber. Chemistry is therefore the science of decay. But agriculture is the science of producing and increasing life. It must happen, therefore, that when we undertake to turn the principles of chemistry into the rules of agriculture, we shall often find our theories baffled, simply because the principle of life is superior to the laws and affinities of dead matter, and the processes of the laboratory become modified in the growing plant. The mere chemist, then, is not of necessity a farmer. He may sit in his study and foretell results, every one of which shall be true in theory, yet falsified by the first experiment in the field. He may feed his beans with lime, his potatoes with potash, his wheat with the phosphates, his grass with ammonia, yet he may still be only second best at the harvest and the agricultural show. These occasional failures I apprehend to be a chief reason why chemistry is in such discredit among practical agriculturists. She has been too bold, dogmatized too confidently, prophesied too soon. She has used a microscope too much, the telescope not enough, sees only what is under her own eye, does not sweep the horizon and discover that there are more things in heaven and earth than are dreamed of in her philosophy. What, then, it may be asked, are the uses of chemistry to the farmer? They are still great and important uses.

First: Chemistry points to the road of intelligent experiment. If I know the properties and constituents of certain crops, and know at the same time the chemical composition

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of my soil, I can form at least a rational conjecture whether the one is adapted to the other, and am, so far forth, a better farmer than he who is ignorant of the whole subject. If I know the composition of a fertilizer, drawn from the barn-yard, I may imitate it by some artificial products bought at the druggists, or dragged from the swamps, or saved in the door-yard, and I have my eye open along the track on which improvement in agriculture is to be discovered. Another, though a negative advantage of chemical knowledge to the farmer is, that it saves him many a costly blunder. He will not mix ashes with his stable litter nor plant corn on guano nor top dress in July, if he knows chemistry enough to explain the solvent powers of the alkalies, and the etherial properties of ammonia. He will cut his grass in better season, if he understands that the seed exhausts the land of what it is least able to spare, and makes less fat on his cattle.

In these respects and to this extent, *viz.*, teaching the farmer what experiments to try, and guarding him at the same time against wasteful blunders, chemistry can advance strong claims to be admitted as a part of intelligent agriculture. And agriculture, with the support of chemistry, may claim the position of a science.

But agriculture I said is an *art* as well as a science, and he who understands this art is the practical farmer. It is an invariable characteristic of true art, that it is progressive. It never stands still. If it does, it is not art; it is routine, mechanism, and he who practices it is hardly superior to a machine, sometimes not equal. Now, the progress of all art must depend on understanding its principles. For every art has a science; every fact in the universe has a theory, and true art is but the application of science to practice. The practical farmer is not, therefore, in the true sense, the man who works with his own hands, follows the routine in which he has been drilled and eschews all theory. He works indeed, but with his brain more than his hands. His mind may be everywhere, and with every operation of his farm, more effectually than if he were an active laborer in the field. His success will generally be proportioned, not to his

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bodily labor, but to his head-work. Such is the preëminence which God has given to intellect throughout the universe. In whatsoever calling or profession of life, mind is the mistress of success.

Even in the commonest handicraft, it has been often observed that the educated workman is the best. A very intelligent naval officer once said to me that a Yankee sailor surpassed all others, even in the plainest duties of a seaman, because his greater activity and cultivation of mind made him apt in the principles of seamanship, and more ready to comprehend the command and the reason for it. Not only then may a scientific man be a practical farmer, but *he only* can make agriculture a progressive art. The mere man of work may indeed devise some successful methods to hit upon happy results, out this can only be by virtue of a lucky accident.

In the middle ages there was a class of men called alchemists, the predecessors of the chemists of our day. They busied themselves in ransacking all nature, to discover a catholicon, a universal remedy for all diseases, by which man was to be made immortal here on earth, and the philosopher's stone which should turn base metals into gold.

Chemistry at that time was not a science, but only an unthinking practice. In pursuing their experiments, analyzing and combining, separating and mixing all sorts of substances, the old alchemists did, indeed, blunder upon some happy discoveries, and we at this day employ their inventions in medicine and the arts. But one success often cost them a hundred failures, and not seldom a limb or a life; some untutored hap-hazard mixture would flash in flame, or burst, exploding not only the alchemist's experiment, but sometimes the alchemist himself. How different from this, our modern chemistry; with its intelligent experimenting; knowing not only what it wants, but how to produce it; obeying the laws of science, and bringing forth its practical results with the utmost precision and success. Just so must it be in agriculture. The experiments of a farmer without cultivation, will all be blindfold. His very success will be only a

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blunder. His failures can only discourage or ruin him. He can never be a progressive farmer. But he who brings a cultivated intelligence to his work, will not only succeed the oftener, but if he fails, will know the reason and make his very failure the ground-work of future success. Agriculture as an art, therefore, consists in wisely applying the principles of science, and the practical farmer is not he who plows, hoes and harvests, with a mind as slow as his plow, as dull as his hoe, and as fruitless as his harvest is likely to be, but one who gathers knowledge where he can, and uses it diligently.

But it is time to consider agriculture as a *trade*. He who practices it well is the economical farmer.

I am aware that in entering on this part of my address, I am treading very uncertain ground. I am speaking to the daily business of almost every man here. I am speaking of what every one of my hearers has a right to think he knows better than I can know it. He gets his bread by it, sleeps and walks upon it, clothes himself with it. But a few general suggestions may be borne with, even from one who is not of the craft.

Agriculture, in its economical aspect, agriculture as a trade, consists in getting the maximum profit at the minimum cost. It is a barter trade with nature. So much labor and skill for so much crop. Yet it is to be remembered that this trade lasts for the farmer's lifetime, and if nature finds herself over-reached in the bargain, she has ample opportunity to punish the fraud. The true question of economical farming, therefore, is not simply how to get the largest crop for a single year, but twice, thrice, always.

He, therefore, is the true economical farmer who at the same time improves his farm and makes a profit. A man may scarify the surface of his field, and with little manure and little labor, may raise a crop. He may try the same process again and again, with a measure of profit. But this is agri*torture* not agri*culture*, and nature will resent it in the steadily decreasing crops. The grand fault of such farming is in the use of its gains.

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We Americans have such faith in the manifest destiny of our Republic to extend itself and own all the land that joins it, that each man wishes to play the same game on his own individual account. More land is the vice of our fillibusters; it is too often the folly of our farmers.

The idea has yet to be learned by the farmer, that the money and labor bestowed upon his land are not an *expenditure* but an *investment.* He can not count his profits in so many new acres, or so many dollars multiplied into eagles. But he may be sure that the investment is there, and his tax-bills will show him, if nothing else, that he has raised the market value of his farm, and so increased his capital.

Agriculturists in this country are beginning to believe what has long been a settled conviction abroad, that what is called high farming, is, after all, the truest economy. If one acre of the farm can be turned into a garden that yields a profit of ten, fifteen or twenty per cent., why may not the remaining fifty-nine acres be made to divide more than three per cent.? Why should not the farm be multiplied into fifty gardens? If an acre can be made to produce seventy-five bushels of corn for the premium at the cattle show, why should not the farmer adopt the cattle-show standard for his uniform practice? True economy does not grudge the labor lent to nature, does not regard the jingle of the purse as the highest of human felicity and strive to turn every available product into an instant dollar. I know it may be said that this sort of agriculture requires capital aside from the farm; yet if we should reckon up the instances of most successful farming that have come before us, such for example, as those of men who have bought their farms on credit, and paid for them by the profits of their labor. I venture to say that in every such instance, the general plan of management has been the one I have suggested.

The grand idea of economical agriculture then, I apprehend to be found in what is called high farming, improving the land to its utmost capacity. It may require forty loads to the acre instead of twenty, ten inches of plowing instead of five, three harrowings instead of one. It may require

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that wheat shall be sown in drills and regularly hoed and weeded, as in England and Belgium. But whatever it requires, it turns the farm into a garden. It gives a threefold crop. It perpetrates no fraud on Nature. She is satisfied with her part of the bargain, and pours back her laughing harvest into the farmer's lap.

The same broad economy suggests the improvement of all our breeds of cattle; and not only of breeds, but of individuals, so that each cow, horse and pig, shall be a thrifty witness to the farmer's wisdom and prosperity. Under this head of economical farming, is to be considered, of course, all those other methods more commonly called economy, grouped under one name, viz., *saving*. The care of buildings, fences, implements, and above all the husbandry of manure.

Here is the vital point of this closer sort of economy. If science had done nothing else for agriculture, she has established an immense claim of recompense for what she has taught of the nature and composition of fertilizers. Whether we know the laws of vital action or not in the growing plant, we know at least one thing, that manure is the food of plants, and the more food the fatter harvest. A wise economy on this point is the farmer's true wealth,—blocking up every sluiceway from the barn-yard, gathering all drippings of the stable and the sink, absorbing every gas and neutralizing every odor, by composting with meadow muck, not only doubling his wealth of manure, but preventing it from "wasting its sweetness on the desert air." The one maxim of this economy may be expressed thus—a barn-yard should never smell.

We have not time to extend the detail of agricultural thrift, but there is one indispensable particular, without which no farmer can thrive as he ought; without which, one most important department of his farm will be crippled and beggared; without which, if his purse grows full, his soul grows lean; without which, he will bring disgrace on agriculture and Nature will be revenged on his unnatural state, in refusing Heaven's last, best gift to man, a loving, prudent, first-rate wife. His hired help may fail him, but he has this

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help-meet for him that never fails—helping his hands, helping his head, helping his heart, and from being a mere farmer makes him a whole man. Helping his heart I said—and this reminds me that the view we take of agriculture is too often confined to the mere question of dollars and cents.

But it is a grievous pity if this God-given employment should be capable of nothing higher and better. The moral value of agriculture, its use in refining the sentiments and tastes, is, alas! almost universally ignored. With so much to improve the more spiritual part of our nature, how often do we see the farmer destitute of all sense of the beautiful, and despising all those improvements of nature which heighten her attractions and feed the soul with associations of loveliness that, mingling in with our toil, turn drudgery to delight, and add pleasure to profit. If the farm were made as tasteful as a pleasure-ground, and the dwelling adorned as a grotto, the farmer's toil would be compensated by cheerfulness; his weary body be beguiled by his pleased mind, and above all the children would not grow up to hate their father's employment, using their first freedom to try a precarious substitute and leaving the hearth and homestead to the stranger and foreigner.

But there are men so destitute of this higher conception of agriculture, that they will sell everything that others will buy, will turn everything into hard metal, convert Connecticut into California and change their beautiful homes to mud-diggings, if it will only pay. They will not spare one of nature's glorious groves, if it will furnish railroad-ties or hatchet-handles. They will lay the axe to the old ancestral oak for ship knees—I am not sure they would not submit their own limbs to the surgeon, if their knees were made of white oak.

There is such a thing as the economy of the soul. The Creator never could have meant that the great world of farmers should not know how sweet and enriching it is. But I am admonished that my time is shortening, and I must draw my remarks toward a conclusion.

From this sketch of agriculture as a science, an art, and a

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trade, what is our agriculture, and what are its prospects and its wants? On these points I will endeavor to be brief. When we take this idea of agriculture as a science, an art and a trade, I think it must be admitted that our common farming falls far short of the pattern. If we should judge of the future of agriculture by its past history, we should find but little encouragement for hope.

When we see the rich valley of the Mohawk, which, fifty years ago, produced its thirty bushels of wheat, now reducing its yield to twelve bushels; when the corn crop of Ohio, the garden of creation, falls from seventy-five bushels per acre to thirty; when, according to the estimates of Gov. Boutwell, Massachusetts, even when cultivated intelligence is seething with all sorts of inquiries, theoretical and practical, Massachusetts, within ten years, from 1840 to 1850, depreciated in the productive power of agriculture to the extent of three per cent. per annum of the value of all the farms in the State, amounting to the annihilation of sixty-three thousand acres every year; when in this county the average price of farms is less than it was thirty years ago, I think it is not to be denied, that our agriculture calls for improvement. Such things ought not, must not be. Unless the world is coming to a speedy end, it must not be that the business which furnishes food for every man, woman and child, shall be constantly retrograding—for "you take away my life when you do take the means whereby I live."

It must be that there are resources somewhere, in art if not in nature, to retrieve this loss and make the whole business of farming as progressive as the wants of the world. Our prairies with their exuberant richness, giving harvests to labor that hardly deserves to be called farming, may stave off the inevitable poverty for a while; but when we pay our huge debts to Europe with breadstuffs and provisions, like shipping off our very barn-yards, it needs no prophet's eye to trace the slow-coming mischief, and foresee the famine of bread. Improvement there must be. Improvement in this, as in all other arts, must come from the head more than from the hands—from skill taking the place of drudgery. The

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present aspect of our husbandry indicates the need of a three-fold improvement; first, by developing new forces in agriculture hitherto not appreciated, unlocking new resources of nature; secondly, by guarding against the waste and abuse of natural advantages; thirdly, and above all, in doing more work with less labor. To meet the first want by developing new forces in agriculture, the methods most often spoken of are, rotation of crops, irrigation, and under-draining of the soil.

The latter needs, as yet, a fuller experiment to determine whether in our scorching droughts, draining will be as universally beneficial as under the dripping skies of England. Irrigation has been but little practiced; but thus far, all experience justifies the theory that the watering of grass-lands increases the crops at almost no expense, trusting to nature to furnish her easy supply of oxygen, carbon and ammonia, instead of taxing the farmer's time and toil.

The rotation of crops is a clear advance upon the old farming, but needs further experiment to determine whether it can still be improved. As meeting the second demand of agriculture, by unlocking the imprisoned stores of nature's wealth, the plow, the harrow and the rotary-digger stand forth for notice and a premium. There can be no question that the minute pulverizing of the soil and turning up the cold, hard bed beneath, condensed almost into stone by the tread of cattle and the weight of the plow, turning it up to the air, the light and the rain, God's fertilizer's, does unlock a mighty granary and disinters a buried farm. Science has taught it, experience attests it. Under this head may be mentioned the use of concentrated or artificial manures. Something of this sort is indispensable to the largest progress of agriculture, and of these agencies, guano stands in the fore-front. Although the testimony to its merits varies in some instances very widely, yet enough is positively known to make it sure that guano combines all the essential and most valuable properties of a fertilizer. If it be too concentrated for the food of plants, it can be easily diluted with earth, and peat, and charcoal. The toper might burn up his

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whole digestive appatatus with daily drams of pure alcohol at eighty per cent. proof, while he might survive and grow fat upon the very same quantity diluted to eighteen per cent. in the form of old Madeira. So, if the powerful alkali of guano seem to exhaust those soils which are not rich in vegetable matter, the plain precaution is to use it upon lands where the humus predominates, or to combine it with enough of vegetable soil to obviate the waste.

The economy of guano seems to me equally demonstrable. For if three hundred pounds per acre are equal to thirty loads of common barn-yard manure, it needs no profound arithmetic to show that the argument of cheapness is all in its favor.

The failures of this fertilizer seem to have all proceeded from misuse, and that misuse from ignorance of scientific laws, showing yet again that science and practice are as father and mother to a thrifty agriculture. What God hath joined together let not man put asunder.

I spoke of improved agriculture, again, as guarding against the wastes of the powers and products of nature. Beside what I have already said of the economy of manures, I may mention the importance of saving our forests from the ruthless axe. When we remember that none of our rivers, like those in Europe, are fed from the melting snows of the mountains, but all spring from the moist bosoms of our great forest-lands, it grows to be a question of importance, what is to be the effect of this American impatience of foliage. Who can say that this denuding of the earth's surface may not, by hastening evaporation, increase our terrible droughts till they grow to be the stated pests of agriculture. And if it be true, moreover, that an acre of forest-land adds to itself a cord of wood per annum, and improving the soil at the same time, it may be a question of economy whether an improved agriculture may not demand that new forests should be planted to repair the losses of fuel and timber. Science shows us this danger, and science and practice, in agriculture, should never be separated.

The next necessary step of an improved agriculture, must be by labor-saving machines. Labor in this country is the

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most costly commodity that a farmer buys, excepting flour at fourteen dollars per barrel. Yankee activity, which would always rather use the head than the hands, has done more in this line already than has been done for agriculture anywhere else in the world. We not only do not fasten the plow to the oxen's horns, still less to their tails, but we have improved the plow itself beyond all comparison with those of other lands. The lightness and proportion of all our farming tools, our improved horse-rakes, one pattern of which seems to leave nothing to be desired, our threshing and reaping-machines and our horse-powers attest already a very large advance in agricultural mechanics. But more remains to be done. The horse-power is yet to come into general use for sawing the wood and grinding the corn. The mowing-machine, a most decided step in the right direction, is yet to be made available, by increased lightness and cheapness, for a small farmer and for one horse. It will come. Its vast importance warrants us in saying so. The value of the hay crop, its additional value when rightly made, the natural necessity of making it while the sun shines, all assure us that the mowing-machine is an invention which agriculture will not willingly let die. Time is money, according to poor Richard, but haying-time is more than money to the farmer. If experiment shall show some improved method of curing hay, without the usual labor and delay, a thing not improbable, and if some easier method be devised for gathering and storing the crop, a thing easily to be conceived, then this most important interest of the farm will ask no more of man. The prophetic eye of agricultural science looks clearly forward to yet another grand improvement of the art, *viz.*, the introduction of steam-power. It may seem a chimera to us sitting here to-day. But the steam-plow is hardly more in advance of the present state of agriculture, than the cotton-gin was to Southern planting, and its actual introduction into England, shows us another movement in the right direction.

It is hard if Yankee shrewdness can not improve a hint from our slow cousins across the water, and after a due amount of whistling over the idea, whittle out an invention

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that shall leave both our cousins and our oxen, nothing to do but look on and admire.

I have thus sketched some of the improvements necessary to our future agriculture. The great difficulty in the way of them all, is the proverbial slowness of farmers to adopt mechanical changes.

While the manufacturer catches in his always open ear the first whisper of an improvement in machinery, and often revolutionizes the whole interior of his factory to save a mill on a yard of cloth, the farmer waits until he sees the experiment tried upon his neighbor's farm, and then adopts the method without knowing the reason. The grand improvement then, fundamental to all the rest, is an increased intelligence among the whole body of farmers, so much knowledge of the science of agriculture as shall teach him what improvements are practicable and save him from mistakes in practice.

In order to this, farming should be made a part of education. Why should there be schools for every other art and none for this one, of such universal importance? Why should it be thought that a boy when he has graduated at the district school is sufficiently prepared for the work of a successful agriculturist? As the nearest approach to systematic education, let there be at least some institution where the whole science may be illustrated by experiment; where every rational theory may be brought into practice; where different systems may be tried with all their conditions duly observed; all the facts and results minutely recorded. In this way, agriculture might rise at once to the certainty of a science. And since no individual or set of men can be expected to incur all the risks of agricultural experiments, the institution should have the patronage of the State. Something like this is already begun in Massachusetts, where the lands of the Reform School at Westborough are used as a model farm. Until this can be accomplished in its fulness, something may be done by farmers' clubs, by agricultural periodicals and by just such associations as this which I have the honor to address.

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Your own legislature has shown its enlightened appreciation of this great interest, by such endowment as the county and State societies have already received. I trust we may look forward to yet more efficient patronage, not only from the State, but the national government, when the large ideas of Washington may, after half a century, be met and answered, and the patronage of the government, so often perverted, be brought to carry forward our agriculture to that pitch of excellence which may be worthy of the glorious land with which we are endowed. I congratulate you, Mr. President, and the members of this association, on the revival of the agricultural interests in Windham County. I congratulate you on the admirable proof of your success furnished by this Exhibition. I hail it as a token of improvement in agriculture in a district comprehending as many good farms as any in New England. I hail it as one of many pledges from all quarters of a good time coming; when agriculture shall take its place among us as a science, an art and a trade; when the capabilities of nature and of art shall be so well understood, and all the operations of the farm conducted with such clear-sighted intelligence, that every farmer may calculate his crop as certainly as the manufacturer his cloth; when he shall know what, and how much each field may be made to produce, and how to produce the largest possible crop at the least possible cost, and contented with nothing short of a maximum in everything; a half ton of hay to the acre shall be deemed an agricultural misdemeanor, and the second offence be a case for the grand jury. Then uniting the scientific, the practical and the economical, our agriculture shall stand out complete and perfect, and when Americans are asked for the best living evidence of our national superiority, they may point to our FARMERS.

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LITCHFIELD

COUNTY AGRICULTURAL SOCIETY.

Officers.

Robins Battell, President.

Joseph H. Bennet, Royal A. Ford, Joshua Bird, Vice-Presidents.

A. S. Lewis, Recording Secretary.

Stephen Trowbridge, Treasurer.

Josiah G. Beckwith, Corresponding Secretary.

Leman W. Cutler, Reuben H. Hotchkiss, Richard W. Griswold, Committee on Domestic Manufactures.

Herman Baldwin, Dayton Matoon, Alexander Norton, Committee on Agriculture.

Nathan Hunt, Jr., George C. Hitchcock, Alonzo Whiting, Committee on Domestic Animals.

This Society has during the past year, purchased three acres of land, inclosed it with a tight board fence, seven feet high, and erected a building suitable for the use of the Executive Committee, at a cost of about twelve hundred dollars.

At an annual Fair, held last fall, notwithstanding a continued rain through the whole time, the receipts at the door were nearly six hundred dollars, and from all sources, about nine hundred dollars, of which amount five hundred and fifty dollars was distributed amongst competitors in the way of premiums, and other expenses, over two hundred and fifty dollars. Our expenses attending the new arrangements, exceeded what they will cost hereafter, and our receipts fell

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short of what we might have expected in pleasant weather, by at least one-half.

This Society, now in its sixteenth year, has received an impetus by its new arrangements, and is bound to "go ahead" and rival any other county society in the State. We can show more fine cattle, sheep and horses, than any other, and the spirit and enterprise of its members is equal to that of any. Arrangements are already making to enlarge our grounds by the addition of two acres, and the erection of a large building in place of a tent, for the display of domestic and ornamental articles. Next fall, the elements favoring, we intend to exhibit the best stock of cattle, the finest horses, and the greatest variety of skillful and ornamental productions, of any county in the State, and thus early throw down the gauntlet and challenge to our sister counties.

A. S. LEWIS, *Secretary.*

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REPORTS.

FARMS.

The Committee on Farms submit the following report:

They found two farms entered for inspection, one by Mr. George F. Merriman, of Watertown, the other by Mr. Nathan Hart, Jr., of West Cornwall.

The committee first viewed the farm of Mr. Hart. It is the southern portion of an elevated ridge of land, and has a southern, eastern and western aspect.

The farm consists of about 120 acres, ninety of which are under cultivation, and about thirty in timber, and is a portion of a valuable tract of land which has been owned by Mr. Hart and his ancestors, from the first settlement of the town. This farm in its early cultivation was subjected to the prevalent system of that age, which was to clear off the timber from a field and plow in the stone from year to year, until the soil was exhausted, and then let it lie without stocking with grass seed, and new fields in succession would be subjected to the same process. Thus, leaving it to the next generation to commence the work of reform, by removing the loose stone and making some cheap wall fence, seeding the land, &c., and to the third generation, or present proprietor, to blow up the rocks, and by deep plowing, liberal manuring and fine tillage, restore the soil to its natural fertility and productiveness.

The soil is a deep, rich loam, moist and stony, with a liberal sprinkling of large rocks scattered upon it, overlying a hard pan, and is well adapted to grazing. The farm has been owned by Mr. Nathan Hart, Jr., about eight years. The stock kept on the farm at the present time, consists of twenty cows, one yoke of oxen, two yoke of steers, two horses, twenty-five sheep and ten swine, all of them in good condition and many of them superior animals, and mostly raised by himself. The income from the farm is derived principally from

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the dairy, and its collaterals, pork and veal, the corn, roots, &c., being subservient to it.

From the neat appearance of the cheese in the cheese-room, and the high price which it commands in market, we had the best assurance that the same thorough management prevails within doors that we witnessed on the farm. By the use of swamp muck, (of which there is a valuable bed of about two acres on the farm,) composted with the stable manure, he has furnished the present season, about 150 loads of rich compost manure, besides which he has used 350 pounds of guano, 3,500 pounds of gypsum and 50 bushels of ashes.

The improvements claimed by Mr. Hart since he has owned the farm, (and which are very obvious and marked,) consist in thorough repairs of the house, in moving and reconstructing several of the out-buildings, so as to render them convenient; in relaying a portion of the original wall fences and making new ones; in ditching and under-draining where the soil was too wet, and in deep plowing, with liberal manuring and fine tillage.

Among other items of improvement, we noticed one piece of wall some thirty rods in length, which was five feet high and eight feet wide, many of the bottom stones extending through the whole width of the wall. One piece of ground, including about ten acres, originally too wet to be productive, has been drained by one deep open ditch, cutting off the springs from the upper side, and by two covered drains running through it, and numerous shallow drains upon the surface, made by plowing the land into beds of about two rods in width, leaving an open shallow drain between the beds.

By such draining, he has been able to plow and stock down to grass, successive portions of the field, substituting valuable varieties for those that were comparatively worthless. One acre of the same field had a fine crop of buckwheat growing upon it, which we estimated would yield from twenty-five to thirty bushels of grain. This acre was entered also as reclaimed land.

As a further evidence of the enterprise of Mr. Hart, we would mention that he succeeded in bringing water in pipes to his buildings for a while, raising it by means of an hydraulic ram, one hundred and seventy feet from the spring. But the pressure proved to be too great for any ordinary pipe to withstand for any length of time, and it had to be given up; and water is now obtained from a well by pipe with a syphon. The farm is well furnished with choice varieties of apples, pears, cherries, &c., to which a good degree of attention must have been given for many years. There is one practice which Mr.

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Hart has adopted, which your committee noticed as being important, and perhaps is the very key to his success, *viz.*, that of keeping a regular farm-account; by means of which he is able to understand his business and to know the results of what he does. And we would here take the liberty to commend to the young farmers of the county the practice of keeping an accurate and particular farm-account. We venture the opinion that if the farmers of the county would keep as accurate an account of all their transactions, and make as frequent an exhibit of their accounts as the officers of the several banks of the county are required to do of their transactions, the increase of knowledge in their vocation which they would derive from such a memorandum, by comparing one year's account with others, and the stimulant which a comparison of accounts among neighbors would excite, would soon work a reform which would be manifest upon the face of the country and in the pockets of the farmers.

The committee were furnished by Mr. Hart with the following account of his mode of cultivating some of his tillage land, and of the results.

For corn, plowed under twenty-five loads of compost to the acre, equal parts of muck and stable manure. Marked out the rows three feet each way; used one hundred and fifty pounds of guano, mixed with fifteen bushels of muck, prepared five weeks previously, putting a handful in each hill at planting, covering it slightly with dirt, and then planting the corn and covering it over the guano. The result was that the manure was too strong, and burned off about one-fourth of the young sprouts. The corn which grew looked well. He thinks the guano should be covered three or four inches deep under the seed.

For potatoes, plowed under twenty loads of compost to the acre; then harrowed in upon the surface, twelve loads of muck composted with twenty-five bushels of ashes; planted the fourth of May, rows three feet apart each way; put a handful of a mixture of ashes, plaster, lime and salt in the hill with the seed. The crop, an excellent one, yielding a bushel to fifteen hills, or about three hundred bushels per acre.

Of ruta baga, carrots and mangel wurzel, he has one-fourth of an acre each; manured with three hundred pounds of guano; plowed deep and harrowed fine; sowed in rows, fourteen by eighteen inches apart; kept clean with the hoe; and lastly spaded between the rows to the depth of about ten inches. The crop looks finely.

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The following is an account of his sales of produce for the years 1850 and 1853, with an estimate for the present year.

In 1850, for	Dairy,	$510.38	
	Pork and Pigs,	61.24	
	Fruit,	10.00	
	Growth of Stock,	50.00	
	Sundries,	20.00	— $651.62
In 1853, for	Dairy,	$632.11	
	Pigs and Pork,	120.00	
	Poultry,	67.75	
	Beef,	80.00	
	Growth of Stock,	75.00	
	Sundries,	27.00	— $1001.86

Estimate for the present season.

Dairy,	$693.75	
Pigs and Pork,	60.00	
Lambs and Wool,	85.00	
Beef,	73.34	
One pair of Oxen,	145.00	
Poultry,	25.00	— $1082.09

Showing an increase in the amount of the sales, for five years, of four hundred and thirty-one dollars.

In conclusion, your committee would remark, that Mr. Hart's mode of farming appears to have been conducted with a good degree of energy, guided by intelligence; his improvements judicious and thorough, with a due regard to economy; evincing an accurate acquaintance with his profession rarely met with.

Viewed September 13th, 1855.

The Farm of Mr. Merriman is situated in the center of Watertown, and now contains about one hundred and forty acres, of which about thirty are woodland, and one hundred and ten acres are under cultivation. When it came into his possession about twenty-five years ago, it consisted of seventy acres only, and that mostly in a low state of cultivation, there being but one barn and only four acres of mowing-ground. The dwelling-house was in an unfinished state, the chambers not completed. The house has since been thoroughly finished, with out-buildings, and yard-fences added. To the seventy acres he has added seventy acres more, and increased the mowing-ground from four acres to forty-six. He has built three new barns,

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and the four barns are now all well filled, even the floors of some of them. The farm now maintains about thirty head of cattle, two horses and about fifty sheep. The nature of the soil is various. A portion of the farm is of a clay loam and adapted to grazing. Other portions are gravelly and adapted to raising grain. Mr. Merriman has wisely adapted his system of cultivation to the nature of his soil; consequently has pursued a mixed husbandry. The soil was originally, almost all of it, stony, but not much of it rocky. Mr. Merriman commenced early in improving his fields, by clearing off the stone and making them into fence, and by plowing in manure, and extending his mowing-grounds, which are now particularly smooth and even, there being scarcely a stone or a rock to be seen in his meadows. After having improved, to a considerable extent, the home-lot of seventy acres, he purchased a lot of forty acres, lying conveniently for him, within about half a mile, and in fair view from the house. This field, at the time he purchased it, which was about sixteen years ago, was a pasture and plow-lot. Now twenty acres of it lies in one field, a beautiful meadow, with a fine barn and sheds upon it, built in a most substantial manner, with water brought to the yard in pipe. The remainder of the forty acres has been much improved. Upon one corner of the lot, embracing one hundred and ten rods of ground, he last year raised four hundred and fifty bushels of turnips, which he sold for about one hundred and fifty dollars. From the description of the lot when he bought it, and its present appearance, we judged that its value had been nearly doubled by improvements. Upon the other side of the road and nearly opposite the lot just described, he has since purchased a lot of thirty acres at a low price. Upon this lot he has commenced improvements, having cleared a field of ten acres of the stone, with which he has made a heavy wall upon three sides of it. There was growing a fine crop of turnips of about an acre in one corner of the field, and the remainder of the field was plowed and portions of it manured and in preparation for a crop of rye.

Mr. Merriman had five acres of corn, standing thick and well set with ears, which we judged would yield about sixty bushels to the acre. He had three acres of potatoes, and one-fourth of an acre of carrots, which looked well. The potatoes were injured by rotting to some extent. From seven and a half acres he harvested one hundred and forty shocks of rye, and one hundred and thirty shocks of oats from five acres, the present season. Mr. Merriman appears to have prosecuted his farming with a good degree of enterprise, and

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with strict economy, husbanding well his resources for making manure, in raising valuable farm stock, by avoiding unnecessary expenses in the construction of his buildings and fences, and in performing the labor to a considerable extent without hiring help. And his example we could commend as a safe model to other farmers, abating one important (though common) neglect, *viz.*, that of keeping a regular farm-account.

The following estimate of his annual income was furnished us by Mr. Merriman:

For Butter and Cheese, about	$150
Wool and Lambs,	180
Growth of Stock,	140
Pork,	100
Rye,	125
Potatoes,	140
Turnips,	150
Oats,	150
Corn,	50
Amounting in all to	$1,185

In awarding the premiums, your committee considered the competition for the highest prize to be very close. And it would have been agreeable to their feelings to have awarded equal premiums, had they been entrusted with discretionary power to that effect. But as they were required by the rules of the Society to discriminate, they have done so, and have awarded to Mr. George F. Merriman a silver cup, valued at twenty dollars, and to Mr. Nathan Hart, Jun., a silver cup, valued at ten dollars.

REPORT ON RECLAIMED LAND.

There were two pieces of reclaimed land entered for exhibition. One acre by Mr. Nathan Hart, Jun., to which we have before alluded, and one acre by Mr. Titus L. Hart, of West Cornwall.

The first, as we have already described, was naturally too wet for *tillage*, or for the better qualities of grass, and by judicious and thorough draining is now susceptible of being plowed, and is yielding a valuable crop of buckwheat the present season, and is well stocked with herds-grass.

The reclaimed acre of ground exhibited by Mr. Titus L. Hart, is a part of a bed of muck, which covers some eight or nine acres, and so deep that we saw where a rail was thrust down the length of it.

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It was originally an ash swamp, and evidently once stocked with beavers, as their work is now distinctly to be seen. Before draining, the soil was utterly worthless, being miry, and covered with bogs and shrubs.

Mr. Hart has surrounded nearly the whole eight acres with a large and deep ditch, and also cut a ditch through the center of the bed. These have effectually drained the swamp. Upon one side of the middle ditch he has changed the surface by cutting off the bogs, and with the spade and harrow subdued the native growth, and substituted herds-grass and redtop, which, with a top-dressing of stable manure, yielded fourteen cart loads of the first quality of hay on about three and a half acres, the present season. Mr. Hart weighed the hay from a small portion of the field, and found the weight to be at the rate of about five tons per acre. The soil is now dry enough to plow or to bear up a loaded cart, lies perfectly smooth and level, a green sward, a perfectly reclaimed and beautiful piece of land. Upon the opposite side of the middle ditch he has commenced bogging and harrowing, where we saw about one-half an acre of corn, potatoes and pumpkins, growing luxuriantly. The committee were of opinion that the quality of the muck in that bed for cultivation or for making compost, is better than they have ever seen elsewhere.

After showing the reclaimed land, Mr. Hart invited the committee to look at a field containing about two acres of ground, which he had cleared of rocks and stone. This was not entered for a premium, as there was none offered by your Society for improvements of that class. Neither is it reported here as a sample for every farmer to copy; but we take pleasure in describing it, as showing what a man who has the *means*, and *taste*, and the *indomitable energy* of Mr. Hart, is justified in doing, (we would say almost regardless of economy,) to gratify a laudable ambition to adorn the premises near his dwelling, where they must necessarily lie under his constant observation. The piece of ground lies adjoining his house, and fronting the road on one side. It was, when we saw it, covered with a heavy crop of corn, and the soil was of a fine tilth and apparently free from stone, and we were assured that there were but two rocks or stone to be seen in the field. How it appeared before improvement we can form some idea, when told that the rocks and stone which have been *blown* out and *dug* out of it, have been sufficient and used to enclose it on more than three sides, with a wall measuring seventy rods in length, which is, a considerable portion of it, six feet thick and six feet high, each rod receiving probably ten tons of stone.

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The acre of reclaimed land exhibited by Mr. T. L. Hart, we have learned was not entered on the books in time to entitle him to a premium under the rules of the Society. And that exhibited by Mr. Nathan Hart, Jun., having been previously under partial cultivation, the committee had some question whether it was properly classed under the head of reclaimed lands; and they did not feel justified in going beyond the record in awarding premiums. But as they judged them both meritorious, would respectfully recommend to the Executive Committee, to give a gratuity equal to the first premium, of $5 to Mr. Titus L. Hart; also one equal to the second premium, of $3 to Mr. Nathan Hart, Jun.

All of which is respectfully submitted.

Per order of committee,

THOMAS WATSON, *Chairman.*

DEVON CATTLE.

The county of Litchfield, from its broken surface and rugged soil, must ever be largely devoted to grazing, and a judicious selection of breeds of cattle, is a subject important to the great majority of our farmers.

The Devon cattle have been for many years with us the popular variety. They are the oldest and most distinct race, of medium size, and great uniformity. The perfection to which they attain among us, indicates this as their proper home. As working oxen, they are our highest pride and known and sought for throughout the country. None other command, according to weight, so high prices. They have made our county known and honored throughout the agricultural world, and we are beginning to reap the substantial benefits of established reputation and acknowledged superiority.

It is the opinion of your committee that these advantages would be lost by a general substitution of any other variety of cattle in our county, and that a change of policy so radical, should not be made without grave deliberation.

T. L. HART, *Chairman.*

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DURHAMS, OR SHORT HORNS.

MR. PRESIDENT: Your Committee on Durhams, or Short Horns, having attended to our duties, report:

We have been interested in the exhibition of this class of animals. We are fully aware that many farmers who in former years have presented animals for premiums, bearing marks of white, have returned home with their beautiful stock unnoticed, when the committees have made *color* their standard.

It has been truly said, "A good animal can not have a bad color."

We are pleased to find we have some members of this Society, who are directing their attention to the rearing of Durham stock.

We live in a county where the dairy forms the most conspicuous part of the farmer's income. After the dairy, the end of the animal is for beef. In our county, but little has been done in raising cattle which are only intended for fatting. We consider the Durham stock of cattle as possessing more valuable qualities than any that have come under our observation, combining docility of disposition with strength for labor, milking qualities unsurpassed by any other distinct breed, and yielding a larger per cent. of profit when fattened, than any other breed.

Your committee think the display of Durham stock made by Mr. George C. Hitchcock, of New Preston, and Theodore S. Gold, of Cornwall, do this Society great credit. Sixteen head of pure blood stock were entered; fourteen head, owned by Mr. George C. Hitchcock, and two head owned by Mr. T. S. Gold.

MOSES LYMAN,
JOSEPH H. BENNETT, } *Committee.*

NATIVE OR GRADE BULLS, COWS AND HEIFERS.

The Committee on Native or Grade Bulls, Cows and Heifers, fully aware of the numerical strength of the class assigned for their inspection, and having a sort of "fellow-feeling" with the class, on account of the *name*, are ready to bear willing testimony to their numerous merits.

While your *aristocratic bull* is stalled, pampered and groomed,

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with nothing to do but propagate his species, the *Native*, of perhaps equal perfection, but not heralded through the "Herd Book," at half the expense of keeping, does the same service, and in addition, bears the yoke from "early dawn to dewy eve," thereby enhancing the wealth of his owner.

Then contrast your unassuming Native or Grade cow, with her thorough bred, aristocratic, *foreign born* neighbor; generally, what does the latter, but in imitation of the sovereign under whose jurisdiction she was reared, have a calf annually, which is nursed, nurtured, cared for and brought up by a Native. How does your Native cow compare with her? Why, she too, rears her annual calf, and in addition, produces the delicious cheese and the glorious, golden butter, which are the delight of every householder in the land. This class of cows will produce from forty to sixty dollars annually in butter and cheese, with ordinary care and keeping.

Your committee believe this class of stock is the best adapted, and most profitable for ninety-nine out of one hundred to raise, while they are willing to admit the desirableness that the one hundredth, who has the taste, tact and pecuniary ability combined, should grow thorough bred stock.

JOHN M. WADHAMS, *Chairman.*

DOMESTIC MANUFACTURES.

The Committee to whom was referred this most important department of your annual Show and Fair, respectfully beg leave to report:

That they have discharged the duties of their appointment as well as the brief time allowed them would permit.

They would state, as an act of justice to the ladies of this county, that they have done themselves much credit, by the taste and skill exhibited in the selection of subjects for the pencil and the needle, as well as by the unusually large variety of the articles exhibited, many of which were very beautiful.

The high degree of merit of such a large number of articles, made it exceedingly difficult, and in some instances, impracticable for the committee to discriminate the most meritorious of each class, and in addition to this, the large number of articles which were presented, for which no premium was offered by your Society, have induced

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your committee to recommend a very large number of discretionary premiums for small amounts, but manifesting the lively interest which your Society feels in a matter which so intimately identifies itself with the prosperity and happiness of the masses of the people.

We believe that the *home* of the American freeman should be the center of a circle of industry, and replete with all the comforts of domestic life, to which the wife and daughters should be liberal contributors.

Physical and mental eminence, the improvement of the human race in form and comeliness, and all those virtues of character which make the patriot proud of his home and his country, are dependant on the industry and moral training of the female portion of every community. While physical and moral degeneracy are the legitimate results of the neglect and abandonment of those habits and domestic pursuits, which enabled their maternal ancestors to train up for their country, those distinguished Revolutionary heroes and statesmen, who gave to the world the most enduring monuments of their genius and wisdom, the civil and religious liberty of their country, and that shield of its protection, the American constitution.

In conclusion, your committee express the confident hope that in all future exhibitions, the fair portion of our community will not only grace with their presence, but adorn with their handiwork, the Fairs and Shows of the Society, and thus elevate their own reputation, and present one of the strongest attractions, making your annual Cattle Show and Fair what it already is in an adjacent county in a sister State, the great holiday of the year to the whole population of the county and the commonwealth.

Respectfully submitted.

J. G. BECKWITH, *Chairman.*

There was also on exhibition, but not for premium, an engraving of the barn belonging to David Leavitt, formerly of this county, now residing in Great Barrington, Mass., so well described by Horace Greely, Esq., in a recent number of the Tribune, which was constructed with so much taste, and so well calculated to accommodate the farmer in every particular, that it was an object of universal admiration, and regarded as a model for future imitation in its plan and arrangement.

All of which is respectfully submitted.

J. G. BECKWITH, *Chairman.*

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FIELD CROPS.

Premiums awarded on Field Crops at the annual meeting of the Litchfield County Agricultural Society.

Best acre of corn, 103 bushels, to Willis Law, of Litchfield.

Second best acre of corn, 100 bushels and two quarts, to Holmes O. Morse, of Litchfield.

Best acre of oats, 101 bushels, at the standard weight of 28 lbs. to the bushel. (The oats weighed 34 lbs. to the bushel, and measured 83 bushels,) to Jasper P. Brewster, West Cornwall.

Best ¼ acre of carrots, at the rate of 728 bushels to the acre, to Nathan Hart, Jr., West Cornwall.

Best ¼ acre of beets, at the rate of 760 bushels to the acre, to Nathan Hart, Jr., West Cornwall.

Best ¼ acre of winter turnips, at the rate of 800 bushels to the acre, to Abraham Beecher, of Bethlehem.

Best ⅓ acre of rutabagas, at the rate of 922½ bushels to the acre, to T. S. Gold, West Cornwall.

Best acre of spring wheat, 20¼ bushels, to T. S. Gold, West Cornwall.

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TOLLAND

COUNTY AGRICULTURAL SOCIETY.

Officers of the Tolland County Agricultural Society, for 1855 *and* 1856.

President, EPHRAIM H. HYDE, 2d, Stafford.
1st Vice-President, R. B. CHAMBERLIN, Coventry.
2d Vice-President, JOHN S. YEOMANS, Columbia.
Secretary, GEORGE D. HASTINGS, Tolland.
Treasurer, ALVAN R. HYDE, Tolland.
Auditor, MARCUS WOODWARD, Somers.

Chairmen of the Awarding Committees.

Farms, JOSIAH HAMMOND, Vernon; Reclaimed Lands, WILLIAM KEENEY, Bolton; Produce, SAMUEL F. WEST, Columbia; Domestic Manufactures, A. C. CROSBY, Vernon; Horticulture, DAVID EATON, Ellington; Plowing, JOHN E. PORTER, Hebron; Bulls, Cows and Heifers, JOHN WALKER, Vernon; Working Oxen, SAMUEL ELLIS, Hebron; Steers and Fat Cattle, ASAPH M. KINNEY, Ellington; Horses and Colts, LUCIUS DWINNELL, Tolland; Trotting Horses, F. D. JOHNSON, Stafford; Matched Horses, DANIEL R. SPRAGUE, Andover; Sheep and Swine, RALPH STORRS, Mansfield; Blood Stock, JABEZ COLLINS, Somers; Poultry, HORATIO HOLMES, Stafford; Arts and Fine Arts, GEORGE POMEROY, Coventry; Trains of Working Oxen, CHAUNCEY PAUL, Union.

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REPORTS.

RECLAIMED LAND.

To the Tolland County Agricultural Society:

The Committee on Reclaimed Land offer the following report:— There were four pieces of land entered for premiums, *viz.*, one in West Stafford, one in Rockville, one in Somers, and one in Columbia. The committee first viewed a piece of land owned by the New England Company, in Rockville, but unfortunately, by the rules of the Society, not coming under the head of reclaimed land, your committee can not award the merited premium, but would recommend others, who have land as valueless as this was known to be by your committee a few years ago, to examine this, and we feel assured that they will believe with us, that it is not necessary that a piece of land should be a sunken quagmire, or completely submerged in water in order to make it a fit subject for improvement.

Your committee next viewed a piece of about one and a half acres owned by Mr. Elias Sheldon, of Somers. Mr. Sheldon has drained his land by ditching and turning the course of the stream from its natural bed through the said land; cut off bogs, dug out stumps, plowed and hoed, until he has subdued the wild grasses, and it is now, to all appearance, the most valuable mow-land on his whole farm. The whole cost of this improvement, Mr. Sheldon estimates at about $150.

The piece next examined is owned by Mr. Asa Patten, of West Stafford. In this your committee were somewhat disappointed, though agreeably so, for after winding around among the hills for five or six miles, through a section of country full as susceptible of improvement, to say the least, as the piece entered by the New England Co., we came upon Mr. Patten's land, which consists of about twenty acres, and was, to all appearance, originally the very worst kind of sunken swamp; in fact, Mr. Patten showed us the skeletons of animals which were lost in the swamp by going in for water, and sinking so deep as to be unable to extricate themselves. The muck

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in this swamp is very rich and deep. Mr. Patten has effectually drained it, by digging a ditch around the entire piece at the base of the upland, thereby cutting off all springs from the sides, and by a ditch of some four feet in depth and width through the center, carrying the water from a large spring at the extreme south end.

On about ten acres of this land, Mr. Patten had an excellent crop of rye; it is now seeded with grass and looks finely. A part of the same field was mowed the present year, and yielded a large crop of grass. On still another part of the field, Mr. Patten was digging some very fine looking potatoes, thereby making his land pay a yearly installment on the capital invested.

The fourth and last piece viewed by your committee, contains about an acre and a half, and is owned by Mr. Augustus Post, of Columbia, on which, after expensive bogging and draining, he has succeeded in growing, the present season, a crop of corn which is seldom equalled in the county, showing that this class of soils, when thoroughly reclaimed and properly cultivated, are not surpassed by the so-called virgin soil of the far-famed West.

The premiums awarded by your committee are as follows:

1st premium,	Asa Patten, West Stafford,	- -	$10
2d do.	Elias Sheldon, Somers,	- - -	6
3d do.	Augustus Post, Columbia,	- -	4

All of which is respectfully submitted.

A. M. HALING, *Chairman.*

WORKING OXEN.

To the Tolland County Agricultural Society:

The Committee on Working Oxen, respectfully report:—That in entering upon their duties they found presented for their inspection, nineteen pairs, *viz.*, seven pairs four years old, four pairs five years old, and eight pairs six years old and upward.

Your committee were highly gratified with the appearance and performance of these oxen, all of which evinced the result of thorough training, and gave satisfactory evidence of their working capabilities; hence your committee were governed somewhat by size, evenness of matching, beauty of color, symmetry of form, &c.

Your committee tender their thanks to all the competitors for the

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interest they have manifested in presenting their several specimens of working oxen; and if any one feels as though exact justice had not been done, we would encourage him to persevere until he obtain that justice which he may merit.

All of which is respectfully submitted.

AARON THOMAS, *Chairman.*

TRAINS OF WORKING OXEN.

To the Tolland County Agricultural Society:

The Committee on Trains of Working Oxen, offer the following report:—Three trains of cattle were presented for premiums, from Vernon, Tolland and Coventry. The train from Tolland showed much spirit and interest on the part of the farmers, in producing the longest train on the ground. Coventry had some good oxen in her train; but for strength, fineness of form and age, the Vernon train surpassed either of the others.

Your committee have therefore awarded the

1st premium to Vernon,	- - - - -	$15
2d do. to Tolland,	- - - - -	10

All of which is respectfully submitted.

J. L. FORD, *Chairman.*

STEERS AND FAT CATTLE.

To the Tolland County Agricultural Society:

The Committee on Steers and Fat Cattle, would respectfully report:—That they have attended to the duties of their appointment, and would say, that they were very much pleased to see so large a number of specimens upon the ground for their examination, exceeding as it did the number entered any previous year; at the same time they regret that they had no more funds at their disposal for premiums, obliging them as it does to pass by some really meritorious specimens. The animals exhibited were all fine specimens, showing

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what good care and attention will do for stock, even on the rugged hills of Tolland County.

All of which is respectfully submitted.

THEODORE HALL, *Chairman.*

BULLS, COWS AND HEIFERS.

To the Tolland County Agricultural Society:

The Committee on Bulls, Cows and Heifers, would respectfully report:—That the exhibition in this department was larger and the animals decidedly superior to those of any previous exhibition.

Among the fine bulls to which the attention of your committee was directed, one belonging to Valorus Kibbe, of Ellington, was decidedly the superior. Hubbard Tucker, of Vernon, also exhibited a very fine animal. Among those two years old, was one exhibited by Lucius Edgerton, of Tolland, which was decidedly the best. Valorus Kibbe, of Ellington, also exhibited a fine yearling. Other animals were on the ground, which, in the opinion of your committee, were deserving of premiums if the funds of the Society would admit of so doing.

A cow, presented by Ephraim H. Hyde, 2d, Esq., was decidedly the best upon the ground; as a specimen of her qualities, we would say, that proof was offered your committee that she has made the past season, 2 lbs. 15 oz. of butter per day, and has given 55 lbs. of milk per day. She is six years old, mixed blood Durham. Your committee are of the opinion, that this cow would challenge competition either as a milker or for butter-making, with any cow in the State. Two other cows were exhibited by Mr. Hyde, that were very fine animals. George D. Hastings, of Tolland, also exhibited a very fine cow of mixed blood. Leonard Loomis, John L. Phelps, and Henry W. West also exhibited some very fine cows. Valorus Kibbe, of Ellington, showed a fine looking cow, decidedly the best *looking* one upon the ground.

Nathan Gillette, a fine four years old cow for stock or beef.

The show of heifers was very large, and highly creditable to the farmers of Tolland County. Marcus Woodward, of Somers, exhibited two fine mixed blood two years old heifers, with their calves by their sides, the calves three and a half months old; weighed 350 lbs. and

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352 lbs. respectively. R. B. Chamberlin, of Coventry, exhibited two two years old heifers, that were very fine stock; also two yearling heifers. George Forward, of Tolland, exhibited a fine yearling heifer, the largest upon the ground of its age. Valorus Kibbe, of Ellington, exhibited a heifer, twenty months old, with a calf by her side, a very fine animal. J. A. Kibbe had upon the ground a fine yearling heifer. J. D. Ford exhibited a pair of twin heifers, two years old, very nice. Horace Meacham, of Somers, exhibited a pair of steer calves, six months old, which were driven in the yoke. J. A. Kibbe exhibited a fine calf, five months old.

It was late before the committee were organized, and the time for the examination of stock was limited, and some may have been removed from the ground before the examination was completed.

All of which is respectfully submitted.

SYLVESTER T. PRESTON, *Chairman.*

BLOOD STOCK.

To the Tolland County Agricultural Society:

The Committee on Blood Stock, offer the following report:—The increasing interest felt in this Society in raising this class of stock, is manifest in the increase of competitors, as well as the number of entries for premiums.

At the Society's first exhibition in 1853, there was no competition, only one gentleman entering blood stock.

At the second exhibition in 1854, there were four competitors and fifteen entries. This year there were seven contributors and twenty-two entries, all North Devon but one.

Mr. Henry Pinney, of Ellington, entered one Durham Cow, but the pedigree not being traced according to the rules of the Society, although a fine animal, could not come in competition with those who had complied with the requirements of the Society. Five animals entered were not on the ground to be viewed by your committee. All the animals present were very fine, and exhibited good judgment and taste in those engaged in rearing this class of animals; and the pleasure their owners take in exhibiting them should be largely indulged in by others of the Society.

All of which is respectfully submitted.

MARCUS WOODWARD, *Chairman.*

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PLOWING.

To the Tolland County Agricultural Society:

The Committee on Plowing, submit the following report:—The ground selected to plow was a piece of sward land, that had not been plowed for a great number of years, if it ever was. In marking it out on the day of the plowing, contrary to the expectation of every one, it proved so full of stones, entirely under ground, that it was impossible to plow it so as to have any other than a rough appearance. Yet your committee were highly gratified with the skill and energy exhibited by the four men that ventured to encounter it.

Your committee award the following premiums:

1st premium, to	Hubbard Tucker, Vernon, - - -		$6
2d do.	Samuel F. Bradley, Tolland, - -		4
3d do.	John E. Porter, Hebron, - - -		3

All of which is respectfully submitted.

J. W. GAGER, *Chairman.*

SHEEP AND SWINE.

To the Tolland County Agricultural Society:

The Committee on Sheep and Swine, respectfully report:—That they have attended to the duties assigned them. Although the number of entries in this class were somewhat increased from last year, yet the show was comparatively small for the wool-growers and pork-raisers of Tolland County.

All of which is respectfully submitted.

HENRY KINGSBURY, *Chairman.*

POULTRY.

To the Tolland County Agricultural Society:

The Committee on Poultry would respectfully report:—That the late hour of their appointment and organization, prevented their giv-

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ing that attention to the subject, which under other circumstances, would have been desirable. The stock of poultry presented for the inspection of the committee was quite numerous, and contained many kinds which in the opinion of your committee, can not be beat at any county exhibition in the State. There were many fine specimens of China and Spanish fowls, or crosses from them, which were presented under so many different names, that it was impossible, from the information given, for your committee to distinguish exactly, the purity of the blood of many of them.

Some beautiful specimens of the common fowl, as well as turkeys, geese and ducks, were on exhibition.

There seems to be a disposition to improve the old stock of common fowls, which your committee noticed with pleasure, believing that the same farms being stocked with them, as with the imported breeds, the owners will be as well, if not better remunerated.

Respectfully submitted in behalf of the committee.

R. FULLER, *Chairman, pro tem.*

PRODUCE.

To the Tolland County Agricultural Society:

The Committee on Produce have attended to the duties assigned them, and submit the following report:

The exhibition of agricultural products was creditable to the exhibitors, and one of which the Society may well be proud; and your committee are of opinion that in many respects, it can not be excelled in our State. Believing that it is of vital importance for the Connecticut farmer to raise his own bread stuff, your committee regret that no more interest is taken in raising wheat; there being but one entry and that of only one-half acre, not enough to entitle the person entering it to a premium; but your committee after examining the specimen exhibited, and the number of bushels to the acre, (thirty-four,) were of opinion that a discretionary premium, equal to the second premium offered, should be awarded.

There were six entries of corn by the acre, and the number of bushels on each, as certified by the several town committees, were as follows, *viz.*, seventy-two, eighty, eighty-five, ninety-five, ninety-seven and one-half, and one hundred and thirteen and three-fourths.

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There were three entries of buckwheat by the acre, the yield of which was, thirty-one, thirty-four and thirty-six and one-half bushels.

There were two entries of oats yielding one fifty-five and three-fourths, and the other eighty-five bushels to the acre.

No rye or barley entered by the acre.

Of white beans, there were quite a number of specimens, and of very good quality, the best we have ever seen.

The show of vegetables was quite large, and the specimens, such as the farmers of our county may well boast of.

The potatoes and beets we think, can not be excelled, and from the specimens of pumpkins exhibited, your committee think there will be no lack of that indispensable article of a Connecticut Thanksgiving, *viz.*, pumpkin pie.

It has been said that *Wethersfield* raised the finest girls and the best onions of any town in the State, but your committee are of opinion that even *Union* can compete with them in onions, and as for the girls, it does not come within the province of *this* committee to decide.

The bread, butter, and cheese exhibited by the ladies, need no commendation from your committee, and they would simply say of those who contributed so abundantly of their good things at our late Fair, "Let their own works praise them."

The articles exhibited were in many instances, so nearly equal that your committee found much difficulty in awarding the premiums satisfactory to themselves, and we are aware that a different committee might have come to a different conclusion.

All of which is respectfully submitted.

MARCUS LILLIE, *Chairman.*

HORTICULTURE.

To the Tolland County Agricultural Society:

The Committee on Horticulture would report:—That the Exhibition was highly creditable to the county. The exhibition of apples (the staple fruit) manifests an increased interest in the cultivation of the fruit, by the increased number of varieties presented, and the beauty of the fruit, which far exceeds any presented at former exhibitions.

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There was not a large variety of pears presented, but some fine specimens of choice kinds.

There were but few peaches presented, owing to the scarcity of the fruit this season.

There were some very good specimens of Catawba and Isabella grapes presented.

The Wines exhibited were very fine, far excelling the imported, as now sold for family use. Mr. Holmes, of Stafford, presented a number of kinds which were very creditable to him.

Mrs. J. Pinny, of Stafford, presented a fine specimen of monthly strawberries.

The varieties of flowers presented was numerous. Mrs. D. Eaton, of Ellington, exhibited thirteen varieties.

There was but one house-plant exhibited.

All of which is respectfully submitted.

PHILLIP BARROWS, *Chairman.*

HORSES AND COLTS.

To the Tolland County Agricultural Society:

Your Committee on Horses and Colts respectfully report:—On the day of the exhibition of horses and colts, there appeared before your committee a class of horses superior perhaps to any ever before exhibited in this county. At the call for geldings and mares four years old or upward, it was responded to by the appearance of a class of horses that would be creditable to any exhibition in the State. beautiful in color, and stylish in every movement, showing a decided improvement in the class of pleasure horses in the county. But it was observed, that the larger proportion of these horses were raised without the county. Of those raised in the county, we are impelled to speak in terms not of the highest commendation.

Of the mares and colts exhibited, there were some very fair specimens, but the majority were evidently from second class, not to say inferior stock, and the condition of this class can not be charged to the sterility of the soil or any necessary contingency, for from the same sections of the county, appeared as fine calves and neat stock in general, as can be produced anywhere, but it is alone from the want of a careful discrimination in the selection of breeding mares

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and stallions, and proper attention to the stock when young, that such results follow; and it is to be lamented that farmers are so short-sighted to their own interest, and that we, as a county, can not at our annual Cattle Show, make a better exhibition of breeding mares and colts. There were, however, several worthy exceptions to this general description in the exhibition of breeding mares, and although of superior merit, and should be entitled to a premium, yet it is not in the power of the committee to do justice to this class of contributors, as the rules of the Society do not admit of it.

The stallions presented were fair, but we regret to say not first-class.

Among the attractions of the Exhibition, we are pleased to notice the pony, driven by Master Henry E. Hyde, of Stafford, and although not entered for a premium, he was gratefully received by the committee as well as a large concourse of spectators.

Respectfully submitted.

J. W. THAYER, *Chairman.*

ARTS AND FINE ARTS.

To the Tolland County Agricultural Society:

The Committee on Arts and Fine Arts, respectfully report:—That we have attended to the duties assigned us, and have examined sixty-three specimens of articles which may very properly be classed in the division committed to our inspection. These articles may with propriety be subdivided into the following classes, *viz.:* Paintings and Pencilings, Cone-Work, Embroidery and Needle-Work, Curiosities and Miscellaneous Articles. We have felt interested by the list of offered premiums published by the Society, to give particular attention to paintings and pencilings, as the more immediate objects of the Society's fostering care, and have consequently awarded the most of the premiums to this division. But we did not feel disposed to pass over the other classes altogether, but have, in our discretion, given small premiums for other articles deemed of sufficient importance to attract the notice of the Society.

The presentations in Paintings, &c., were very creditable, and consisted of Oil Paintings, Grecian Paintings, Water-Colors and Crayon-Drawings. We have neither the time nor the ability to criticise the

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[illegible] specimens we examined, all of which gave satisfactory evidence that the department is properly appreciated by the [illegible] of this county, [illegible] of their [illegible] the premiums we feel authorized to award.

In conclusion, we have to say, that the department committed to our charge seemed to attract universal attention, and is of sufficient importance to receive further encouragement. The various articles should at least be classified, and the premiums be published [illegible] and not left to the discretion of any committee.

All of which is respectfully submitted, by order of the Committee.

L. P. WALDO, Chairman pro tem.

NEW LONDON

COUNTY AGRICULTURAL SOCIETY.

The success of the first Exhibition of this Society was, in the minds of most, *problematical*, to say the least, and the prevailing opinion was that it would fail, as others had failed before it; but the Executive Committee felt firm in the belief that the resources of our county were vastly underrated by those who considered them inadequate to supply material in such variety and attractiveness as would command the attendance of large numbers of our fellow-citizens. The result has proved that this opinion was well founded. Among the thousands assembled at Norwich during the two days of the Fair, there was expressed, almost universally, a feeling of surprise at the degree of excellence attained by the Exhibition, both viewed as a whole and in detail, while at the same time on every hand was heard the remark, "I might have brought something equal to this;" and, "Next year I mean to show them what I can do."

The success, therefore, of such an Exhibition is now beyond a question; yet in the minds of some, the idea still lingers, that fairs are now the fashion, but soon, when the novelty ceases, the interest will die. This notion is refuted by the continued and increasing success of such institutions in other States; and those, too, more limited in their scope; some devoted to Mechanics, some to Horticulture, and others to Agriculture alone. In Connecticut, our Societies have adopted a broader platform, and, by encouraging *all* the industrial interests, secure to the public a pledge that their annual Exhibitions will continue to increase in interest and

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importance, keeping pace with the improvement in their different branches—thus affording to the community at large, stated opportunities of profitable recreation, which opportunities, from the wants of our nature, are rendered indispensable to successful labor in any department of human industry.

Such Exhibitions are not unexceptionable; they are open to objections. More time may be devoted to certain classes on exhibition, than, in the minds of some, is deemed desirable—disappointed competitors may be dissatisfied with the awards of judges—the mode of arranging and exhibiting the different departments, may be objected to—and many other points there are of minor importance, about which there always must be a difference of opinion between individuals. But these do not impair the excellence or destroy the advantages of such Exhibitions. From the multiplicity of the articles exhibited, all can find something congenial to their taste. Old and young are alike gratified. The farmer does not grudge the little it costs to have a general good time with his friends and acquaintances from other towns, whom, perhaps, he would not see, were it not for the Fair, from one year's end to another. He makes many new friends, sharpens his ideas, receives and imparts information as to various matters of interest, exchanges or purchases stock, or by exhibiting them, advertises his own animals, and, premium or no premium, makes for them a future market much more to his advantage than if he had been obliged to dispose of them within a few miles circuit of his home. The same is true of the market gardener and fruit-grower, the merchant and the manufacturer, who send the products of their industry; for, by so doing, they take the shortest and cheapest methods to advertise their business, while at the same time they are contributing to the healthful enjoyment of the thousands who attend the Exhibition.

This sisterhood of interests through all the industrial pursuits is now beginning to be recognized, as may be seen by the voluntary contributions of all nations to the Exhibitions held in various parts of the World. It is becoming evident that these pursuits are interdependent. What is an injury

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to one, is, in a greater or less degree an injury to all the rest. As their interest is mutual, their fraternal assistance should be mutual. And how can this better be accomplished than by associating to sustain a stated Exhibition, in which each shall be impartially represented before the public?

A collateral advantage of such association is the security afforded that these Exhibitions shall not degenerate into cattle-marts and horse-races; a result greatly to be deplored, but never to be realized, we are sure, so long as the management is entrusted to men whose enlarged and liberal views correspond with the principles upon which our Connecticut Societies have been founded.

But among the advantages of these exhibitions, the enumeration of all of which would be difficult, one of the most valuable is the opportunity afforded the masses, (as in the present instance was preëminently true,) of listening to words of wisdom from a practical man, capable of imparting instruction as well as amusement to his auditors.

The address of W. C. Goldthwait, Esq., which forms the main feature of attraction, in this volume, needs no word of commendation; it speaks for itself, nobly and well, and ought to be read and pondered by every farmer in the county.

We very much regret that the circulars sent through the county were not more generally responded to. But another year we expect to have returns from every town, so that our county may stand before the public on its *true* basis in respect to the matters proposed in the circular. Different returns from the same town—if sufficiently dissimilar—will be published separately.

The Committee of Managers at the last Fair would respectfully tender their acknowledgments to Mr. Dyer, the popular Secretary of the State Agricultural Society, for his excellent suggestions as to the arranging and getting up of the Exhibition; and also to gentlemen of Norwich, who, during the two days of the Fair, rendered valuable assistance to the Managers.

DANIEL F. GULLIVER, M. D.,
Corresponding Secretary.

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Officers.

Rev. WILLIAM CLIFT, Stonington, President.

ERASTUS WILLIAMS, Esq., Norwich; OLIVER JOHNSON, Franklin; E. B. BROWN, Stonington; Maj. T. W. WILLIAMS, New London; PHILO A. GILLETTE, Colchester; B. D. JOHNSON, East Lyme, Vice-Presidents.

Dr. DANIEL F. GULLIVER, Norwich Town, Corresponding and Recording Secretary.

JOHN P. BARSTOW, Norwich, Treasurer.

ERASTUS WILLIAMS, Esq., Norwich; J. I. DAY, Stonington; Maj. T. W. WILLIAMS, New London; J. S. ELY, Norwich; DANIEL W. COIT, Norwich; LEARNED HEBARD, Lebanon; Dr. ASHBEL WOODWARD, Franklin; GARDINER WICKWIRE, Colchester, Executive Committee.

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Treasurer's Report.

DR. NEW LONDON COUNTY AGRICULTURAL SOCIETY, *in account with* JOHN P. BARSTOW, *Treasurer.* CR.

1856.			1856.		
March 22.	To Cash paid Premiums, &c., - -	$1,130.81	March 22.	By Cash of Members, and admission to Fair,	$2,362.21
"	" " Balloon Ascension, -	260.00	"	" Balloon subscription, - -	150.00
"	" Balance, Cash on hand, - - -	1,321.40	"	" of State, - - -	200.00
		$2,712.21			$2,712.21
	Due on Premium List, - - -	75.00		CR.	
	Due for Printing, about - - -	100.00		By Balance to New Account, - -	$1,321.40
	Due from N. L., W. & P. R. R., subscription to balloon ascension, (*repudiated,*) -	$50.00			

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TABLE OF RETURNS

To the Circular issued by order of the Executive Committee of the New London Agricultural Society.

Any person receiving this Circular, is respectfully requested to forward written replies to the questions herein contained, and direct the same to Daniel F. Gulliver, M. D., Norwich Town, Ct. Any reliable local statistics as to Agriculture, Horticulture, or the Manufactures, that may be of service to the Society, are also solicited.

1. What is the average crop of Corn per acre in your town?
2. The average crop of Rye?
3. " " " Wheat?
4. " " " Oats?
5. " " " Buckwheat?
6. " " " Potatoes?
7. The average crop of Turnips?
8. What Fruits are raised?
9. Are they considered a valuable crop?
10. What quantities of each are sold out of town?
11. Is any attention paid to subsoil plowing?
12. Is any attention paid to reclaiming wet lands?
13. What is the average yield of hay per acre?
14. Is market gardening followed?
15. What crops are raised?
16. What is the per centage of profits?
17. What breed of stock is considered most valuable for the dairy?
18. What the average quantity of cheese and butter from a single cow?
19. What breed of sheep is mostly kept in your town?
20. What the average yield of wool?

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lyme,	30 bu.	20 bu.	not raised.	35 bu.	not raised.	50 bu.	300 bu.	some attention paid to fruit.	...	little.	.....	some efforts made.	1 ton.	no.	.....	.....	Ayrshire.	butter 1 to ½ lb. daily. cheesenone.	Saxony and Merinos.	4 lbs. per head.
N. Stonington,	25 bu.	12 bu.	not raised.	20 bu.	little raised.	50 bu.	100 bu.	apples, quinces peaches and pears.	yes.	1000bu. apples 200 bu. qu'ns.	no	some.	¾ ton.	no.	.....	.....	Devon. Native.	but'r 300 lbs cheese 200 lbs. yearly.	cross of native and Merino.	2½ lbs. per head.
Stonington,	25 bu.	12 bu.	.....	20 bu.	10 bu.	this season 40 bu.	ruta bags 150 bu.	apples and peaches.	...	small quantities apples and peaches.	in some localities.	in some localities.	½ ton.	to alimited extent.	.....	of farming. 2to 3 pr	best of all kinds.	.....	Merino and So. Down.	2½ lbs per head.
Waterford,	35 bu.	generally blasts.	generally blasts.	cut for fodder	15 bu.	.....	150 bu.	apples, quinces, &c.	no.	.....	no	some.	1½ tons.	somewhat.	.....	.....	Durham.	.....	.....	.....
do.	30 bu.	little raised.	none.	20 bu.	20 bu.	50 bu.	150 bu.	peaches, apples and pears.	yes.	strawberries and other fruits.	no	50 acres	1 ton.	yes, and profitably.	peas, beans, and all garden vegetables.	don't know.	a cross of Du. and Ay. with native.	.....	natv cross'd M. and S. D.	3 lbs. per head.
do.	30 bu.	very little raised.	none.	20 bu.	20 bu.	50 bu.	150 bu.	apples, pears, peaches, cherries, strawb'es.	1000 doz.	all of the strawberries.	no	50 acres	1 ton.	very suc'ly.	.....	.....	crs. Du & Ay with native and Ald'ny.	but'r 100 lbs cheese little made.	natv cross'd M. and S. D.	3 lbs. per head.

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ADDRESS,

BY W. C. GOLDTHWAIT, Esq.

IMPROVEMENTS IN FARMING.

Mr. President, and Ladies and Gentlemen:

FARMING is a good business. In preparing the lesson of a Bible class, with which I had the honor to be associated a short time since, I stumbled upon this striking remark of Josephus, the Jewish historian, in describing the allotment of Issachar, one of the sons of Jacob. He says: "It is fruitful to admiration, abounding in pastures and nurseries of all kinds; so that it would make any man in love with husbandry."

There are many other spots beside the plain of Esdraelon, where Issachar was located by the spirit of prophecy, among the sunny and vine-clad hills of Palestine, many spots on the green margin of the Connecticut and the Thames, and on the adjacent hills, rich enough and inviting enough "to make any man," as Josephus says, "in love with husbandry."

It is one of the faults (and not the least one) of this much decried age, that so few are devoting themselves to this pursuit. The factory, the store, and the work-shop prove more inviting than the farm. The scythe-snath is found to be more crooked and rough than the yard-stick.

Our young men, the class whom one of old addressed because in his day they were "strong," are in too many instan-

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ces bewildered after a pair of "soft, white hands," as the poet says in wholesome warning,

> "And *soft*, *white hands* would hardly earn,
> A living that would suit his turn!"

More of this class are ambitious of fortifying the lip and chin with what nature has, after all, more generously and appropriately furnished the goat, than of wearing a homespun tow frock. And we may add, there are more bent on following a cigar through life than holding the plow.

The dull plodding world has abandoned the slow jog of the solemn centuries past, and is starting off upon a fast trot. Holding on to the "rake's-tail," and shoveling manure, are too monotonous and vulgar for young men of talent; and that class was never more abundant than now! Hence we are bold to say, that within the boundaries of Connecticut there are more young men, country-born and country-bred, hardly old enough yet to serve the commonwealth at the ballot-box, who look *back* to a farm than look around upon a farm. And how many hopeful sons of sedate and hard-working sires are anxious to put as many leagues as possible between themselves and their ancestral acres. Hence how often it happens back on all the green hills that look down upon Narraganset Bay and the Sound, that the honest old burgher, who still drives his slow team a field every morning, and takes his longest voyages either for business or pleasure in his "stone-boat," finds that the old-fashioned and orthodox proverb, "Train up a child in the way he should go," means in his case at least, train up a child and *away* he will go! At least, this is the way we are bound in honesty to color the map of Massachusetts; and we have yet to learn that Connecticut is any more successful in attaching her children to the soil, than her adjacent sister on the north.

Whether all this be true, or whether if it *be* true, it speaks well for the good sense of the present age, or hopefully for the future, we need not affirm. "We speak to wise men: judge ye." But of one thing we are certain; farming is intrinsically a good business, just what the patriarch of Mt.

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Vernon called it long ago, "the most healthy, the most independent, the most noble occupation of man." And we may add that it affords room for the application of more skill, more calculation, more science, than almost any other business we know of. But with all these high encomiums, we still think that farming is eminently an *improvable* business. Dr. Dana, of Lowell, speaks of the pine plains of Massachusetts, as the "most improvable land under heaven." So we need not hesitate to say of farming, in similar phrase, or that it is the most improvable business under heaven.

And allow me to say here in passing, fathers and brethren in the labors of the farm, that *we* have not been entirely without fault in this matter. We who handle the hoe and spade, have unconsciously let our business slip behind the age. What was good farming fifty years ago, is not good farming now. Change and progress have been the watchword and sign in every department of human art and labor. The minister has found it advisable to make some change to accommodate the age. He can no longer give us a homily of an hour and a half on the first day of the week. His sermons are set to a shorter metre. The doctor has changed his faith and practice with regard to calomel and the lancet. His patient became *im*patient of large doses and the unceremonious shedding of blood, even under a "regular" treatment, and threatened an open apostacy to quackery. And so of every trade and calling. Business has worn out new channels, scooped out new centers, set aside old professions. Indeed there is not a bolt in your carriage, not a button on your garments, not a peg in your boots, but what is made by some improved and greatly accelerated process. Machine work and incorporated enterprise are too powerful for private competition and hand labor.

Business has gone down from the hills and farming villages to the waterfalls, where our New England rivers and brooks leap down over a staircase of stone dams to the far off sea. And it is exceedingly to be feared that with the business, the enterprise has gone there too. For within the hum of a single cotton-mill there is more machinery, more

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close calculation in saving waste materials, more skill and science applied to practical art and labor, than in a township of farms. The stir and pressure and hum of such life is fascinating to youth and active manhood. Hence perhaps it is no wonder that the young man should grow tired of the drudging ox and the monotony of the back door-yard, and be fascinated with the sound of the steam-engine, and the swift shuttle, and the sharp click of machinery, and the heavy forge-hammer that goes up and down faster than his own flail, and yet without the aid of human hands. I say it is no wonder if the young man, with his pulse quickened by the enterprise of the age, should abdicate his thick boots and bid a sad farewell, nevertheless a farewell to the old farm-house through whose small window-panes he first saw the light of day, and go down to the factory-village and store, and plant the seeds of all his future harvests in the scales that fall from the anvil, in the chips of the turning-lathe, in "the mimic snows" of the cotton-mill.

And now, men of the plow, what we have reason to fear is simply this, not only that we shall not recall those who have gone, but that we shall lose even those that remain! The lesson of the present time then to all farmers, (and especially the lesson of to-day) is that we arouse ourselves to a sense of these things, and follow the age in its onward march. Let the occupant of the brown farm-house yonder adopt a new gait in his progress. Let him mix enterprise with his toil and think and contrive as well as work. Let him invite science and modern art to his fireside, his field, his barn; and his business will become not less an occupation, but more a profession. It will become more respectable, if any one thinks it lacks respectability now; it will become more inviting to the young; and in a word, a more profitable, a more satisfying and noble pursuit.

We hardly need say, that we design to speak of needed improvements in farming.

But it is obvious and candid to remark that *great improvements have already been made in farming*. We are all here to-day living and willing witnesses to the fact that great im-

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provements have already been made in farming. We have proof of it in more perfect tools, in better cultivated fields, in larger crops. Indeed, the evidence of it like the light of day, appears everywhere. Our flocks afford us larger fleeces and softer wool. Our herds give us more milk while they live, and when they die, they give us the legacy of better beef than they once did. And really there is not a plow or tile in your fields, not a cutting-machine in your barns, nor an agricultural paper in your dwellings, but what incontestibly proves that in the world at large there has been great improvement in farming. And more than this; we may say that this is a matter of personal recollection with most of us, and needs no proof. Who of us does not remember when the winds across our hills and vallies were winnowed through poorer fences; when the brooks in our meadows found their way to the sea through smaller grass; when the ridges in our fields were shaded by less luxuriant grain; when forty bushels of corn were less common than sixty or eighty or even a hundred now?

The good genius of improvement that has bridged our vallies and perforated our granite hills with her iron pathway, and hung out her telegraphic wires "from pole to pole," across our land, has certainly been here. She has visited the farmer in his field of labor; she has softened his soil, lengthened his seasons and made his business, *your* business, ye farmers of New London County—a more lucrative and at the same time a less laborious business; a somewhat more scientific and we may say, a more honorable business than it was a half a century ago.

But it is time to give these remarks a more direct and personal turn, and inquire how can *we* improve *our* farming? We reply, *We can cultivate less land and cultivate that better.* In this respect European farming is vastly superior to our own, and this may be partly the secret of their superiority in other respects. The large estates of England and some other countries, of course form an exception to this remark. But to many portions of England, and especially to France, it is strictly applicable. In the latter country, under

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the present system, by which all the land left by a deceased individual is equally divided among his children, the average size of the farms is said to be only fifteen acres; while there are a million and a half of farms that average only five acres. While we do not forget that there are some advantages in large estates, still it is said that the wealth of France has increased under this arrangement. And these remarks apply with even greater force to Belgium and Holland.

But in this country it is entirely different. The farmer's covetous eyes too often rest on all the land that joins him; he estimates his wealth and thrift by the size of his estate. But, poor men, who are complaining of the smallness of your estates, we can only comfort you with the assurance that you have too much already! If you are "lawfully seized and possessed" of one hundred acres of arable land, you will in many cases enrich yourself by escheating fifty, even if you turn it out to a public common.

But if you diminish your farms you must not diminish your labor. You can afford to apply even more. Apply the same manure and more, expend the same or increased labor and *cultivate less land*, and we ask you if you would not in many cases increase your products? The world is familiar with the story of the old Roman, who was the father of two daughters and owned a small vineyard. Upon the marriage of the first, for want of other dowry, he gave her one-half of his vineyard, and still witnessed no diminished product. When the second daughter brought home a son-in-law, the father gave her as her portion, one-half of the remainder; and found to his surprise, that he raised more upon the remaining one-fourth than he had formerly done upon the whole. The explanation of the old Roman's success is easy, without understanding Latin. Let us remember that one way to improve *our* farming, is to cultivate less land and cultivate that better.

Again: *We can prepare the soil better for the reception of the seed and manure.* This of course refers primarily to *plowing*. Much of the success of the future crop depends upon the manner in which the land is plowed; and without

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doubt you can recall instances where the crop has been lost from the carelessness of the plowman in the spring. Science has done much for the farmer here. The ancient plow of Jewish and Roman husbandry was clumsy in the extreme. It was designed to *scratch* the bosom of the earth and not invert it. The ancients fancied that the plow, the distaff, and the axe, being so indispensable in domestic affairs, must have descended direct from the gods. Hence, one has facetiously remarked, that if the ancient plow came direct from the gods, the heathen gods must have been at least poor plow-makers!

But the modern plow cuts and turns the sod like a surgeon's knife. Nothing is pleasanter to the eye of the farmer than the sight of a well plowed field, such as many of you can reckon among your past achievements. It is John Milton who has woven into one of his sweetest poems these lines:

> "Whilst the plowman near at hand,
> Whistles o'er the furrowed land."

But inverting the sod and laying the successive ridges like the teeth of a comb, is not the whole of good plowing. The furrows must be deepened. It is true, deep plowing is frequently injurious for several reasons; it brings up to the surface a sub-stratum that never saw the sun, and of course was never ameliorated by its rays. On poor soils it is "yellow dirt," which in our early days of farming we were told never to disturb. Again, deep plowing frequently buries the manure too deeply. And you will allow me to say here by way of episode, that a mistaken impression seems to prevail on this point. Many seem to suppose that if the manure is buried never so deeply, its virtues will find its way out again. But one might as well say that if money is thrown into the sea, it will find its way out again. A more correct idea seems to be that *manures can not well be too near the surface, if only they are under the surface.* Hence, the happiest results we have witnessed have been where the manure, fine manure, was sown upon the rough furrow and harrowed in. With regard to coarse and strawy manures, we have the

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impression that in a more perfect state of farming they will rarely be employed until they have been composted and rendered fine.

But to return to the plow which we left standing in the furrow: Waiving the force of these objections, deep plowing must be practiced or we can have no perfect farming, and principally for this reason: there is underlying the surface a soil that is in many respects, unfit for the wants of vegetation. On many of your farms this soil is found within six or eight inches of the clear air and sun. If now at the next plowing you can bring up one-half or a whole inch, and let the sun and rain and vegetation and manure convert it into vegetable mould, and then at the second plowing replace it and bring up another portion to be treated in the same way, who does not see that the land is improved? It is done, it is true, to some extent at the expense of the growing crop; but on the whole, we gain by the process. Of two fields lying side by side and appearing equally well, of which one has six inches of soil and the other twelve, it is quite obvious that the latter is superior in every respect. Your steady purpose then must be, on most lands, to deepen the soil by plowing.

There is still another consideration of obvious importance. If you constantly plow the soil at the same depth, the bottom of the furrow, or the "plow-floor" as it is called, becomes exceedingly hard. At every plowing you have not only the weight of the team and plow, but at every inch by which the plow progresses, it acts like a wedge, the force of which raises and inverts the surface indeed; but with equal force presses down and imbeds the bottom of the furrow, for we learn in philosophy that "action and reaction are always equal." What effect the rain and frost, penetrating roots may have to counteract such a result, we know not, though it would seem but little. When we consider then, that many of our New England acres have been plowed and re-plowed for half a century or more, it would seem to be a mystery indeed, if the "plow-floor" were not as hard as the original rock. Hence, the necessity of deeper and deep-

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er plowing until we approach more nearly to the ordinary limits of root-growth.

In this connection also, allow me to speak of subsoiling, the design of which is to stir the earth under the ordinary furrow, but not bring it to the surface. The effect of thus stirring the soil to the depth of fifteen or eighteen inches from the surface, and letting in the air, is proved by experiment, to be excellent. On sandy soils, this process is obviously useless; and in some cases on harder soils, it seems for a while at least to be hurtful. But on the testimony of a multitude of witnesses, it can be shown that on many soils crops are greatly increased by the use of the subsoil plow. We are not aware that much attention has been paid to this subject by farmers generally. But in the highly cultivated portions of Europe it has become one of the established modes of culture.

Indeed, so much is thought of these things in France and Belgium, that what is called spade husbandry has, to some extent superseded the use of the plow. The instrument employed, however, is not the spade, but a *fork* of three prongs, these about fourteen inches in length. By this process, the soil is stirred to the depth of fourteen inches, while perhaps only ten inches are inverted. No "plow-floor" is formed. The soil is far more thoroughly pulverized than by plowing. In Belgium an additional process is employed. The ground is frequently "trenched" as it is called, that is, dug two spades' (or forks') depth, and consequently stirred to the depth of twenty inches from the surface. It is stated in a recent statistical work published in France, that in that country alone, not less than 40,000,000 of acres are cultivated by the use of the spade; a space equal to more than twelve times the area of Connecticut! The *expense* of spading an acre would in this country be not far from $16, of trenching, of course twice as much. But in those countries alluded to, the cost of labor is hardly more than one-fifth of what it is here; so that spading may not be vastly more expensive than plowing. But the effects, as in the case of subsoiling, are

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under favorable circumstances, wonderful. The yield from such cultivation is frequently enormous.

Let no person say that these are merely the embellishments of a cattle show address. They are not. They commend themselves to the soberest reason. The design of all plowing is to soften the soil and afford an easy penetration to the growing root. But the ordinary process of plowing would seem to afford a very imperfect preparation, excepting on the mere surface; whilst with regard to that unexplored region that lies below the travels of the plow-share, we have as yet only stamped it coldly under foot, without ever proposing the inquiry whether or not, except for the farmer's cellar and his well, it affords a field for improvement. The roots of plants penetrate the earth (or desire to) to a surprising depth. Wheat roots explore the earth to the depth of two feet; clover, three feet. Von Thaer speaks of having pulled carrots two and a half feet long, the end of which of unknown length, was broken off! The roots of Indian corn prove the earth under favorable circumstances to the depth of six feet, while sanfoin sends its roots beyond the light of day fifteen or twenty feet or more!

But the depth to which roots will go depends very much upon the state of the soil, and of course the growth of the plant must depend very much upon the same consideration. If the soil, saving one shallow stratum furrow-deep, has never been stirred since it was sifted down by the retiring waters of the deluge, as is the case on many of your farms, progress in that direction is at least difficult. If roots ever do crowd their way down through such a plow-floor, their "case" is indeed a hard one; and much of the vigor that ought to be spent in rearing a stalk above, is spent in drilling a hole for the root below.

But, gentlemen, you have followed the plow long enough. The subject is important; but it is time to turn to other themes. Allow me simply to ask farmers to think of these things, and so far as seems good, practice them. If you own any land, you own to the center of the earth. There is nobody beneath you. Experiment then at least on a single

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ridge; send an "exploring expedition" into the depths below, and by deep plowing and subsoiling and the various suggestions of modern farming, adapt the soil mechanically to the understanding of plants. Remember that one improvement in farming is not merely to enrich your soil, but thoroughly and deeply to soften it.

Again: *We can frequently improve our land by draining.* There is another improvement in farming which has hardly begun to receive the attention it demands. It does not always avail to stir the soil and let in the water unless some way is provided to let it out. The subsoil becomes in some cases, as retentive of water as a sponge, and vegetation is injured. This remark, however, applies probably to only a few soils. One of the great discoveries of modern farming is, that a thorough system of deep draining has a beneficial effect upon the soil. Reference is now made to covered drains. With *open* drains you are of course familiar. They are indispensably necessary even where under-drains are employed. If your land is covered, or what is about the same thing, saturated with water, you might as well sow your seed upon the thankless sea. You do indeed cast your "bread upon the waters," but unless you will take in polypods and sour grass, the prophesied "bread" will never come again! That land must be drained. The sun's rays will never penetrate *down* through water. You can boil water on the surface, and still maintain ice unmelted, a few inches below. And then evaporation, which takes place from such a surface, produces a constant and cooling effect; so that such a soil is of necessity a cold soil. By nature's wonderful chemistry, a cold soil soon becomes a sour soil—a sour, cold, bitter soil.

You all have such soil on your plantations. Every inch of it has "taken the pledge" that it will bring forth nothing that is fit for man or beast, except thoroughwort! And all of you, who in the day of your affliction tasted the bitterness of that know that it advertises its birth-place exceedingly well! The history of many thousand acres in Connecticut and Massachusetts is simply in the words of the people of Jericho

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to the prophet: "the water is nought and the ground is barren;" though the water in such localities is seldom "nought" in quantity! But when such lands are dried and turned up to the air, they form the best soil that the sun looks down upon. They are dark colored; hence they are good absorbers. They are saturated with vegetable matter; and any farmer who has such lands reclaimed, may deem himself happy. They are little less than a granary and a manure heap to all the rest of the farm.

Thus far, the way is plain. But it is one of the pleasing results of modern experiment, that if a comparatively dry soil, (meaning, of course, not a blow-away sand, on a pine plain,) be treated with a thorough system of *under-drains*, a most favorable change is produced—the soil becomes more productive. It presents a new paradox as strange as that of the liberal party, who "take a drop" in warm weather to render themselves cooler, and still another drop in cold weather to render themselves warmer! So, such soil becomes dryer in wet weather, and more moist in dry weather. The seasons will be longer; the ground will be softer; the roots of plants will penetrate more easily; the earth worms will find their way deeper, and thus aid in opening the soil; the air, before excluded, will find its way more perfectly through the whole mass, and produce an effect hardly less favorable than it does upon the current of life in the human lungs.

Perhaps you will allow me, though at the risk of overrunning my hour, to refer to the English practice with regard to draining. It will show you at least, (what is indeed the design of these remarks,) that we have room for improvement. On some of the lands the whole surface is underlaid with these artificial channels. We are informed that on a single estate there were, several years ago, many hundred miles of drains. On another, $50,000 were expended in three or four years in improvements of this kind. But to show you the propriety of such enormous outlay, we are told that in one instance, four hundred and sixty-seven acres were drained at an expense of $75,000; but the rental of which

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land was raised, by the improvement, about $2,000 per annum, or twenty-nine per cent. of the whole outlay!

These drains are at a distance, usually, of only twenty feet apart and of the depth of three or four feet—seldom less than two and a half, and sometimes six or eight. And so perfect has the system become in some instances, that they calculate not only upon drawing the water *out*, but letting the air *in;* thus giving a different turn, both to water and air, from that contemplated by one of your Connecticut schoolmistresses a few years since, who upon being reminded by the committee that her school-room needed ventilation, replied that if the air could find its way *out*, where the water found its way *in*, the room was well ventilated! The *ventilation* is accomplished in this wise: if the drain ascends, as of course it must, both ends are left open, and a draft or current is established from end to end; and it is found that the air percolates *up* through the soil, rendering the soil more moist in dry weather, and depositing everywhere the invaluable gases it holds in suspension. This is what is understood by Thorough Draining.

These are some of the effects of draining. Allusion is made to them now as affording a fine field for improvement in farming, and probably in *your* farming. Of course we ask you not to imitate minutely, the expensive systems of other countries. Circumstances alter cases. With British landholders, money is more abundant, labor is cheaper, and what is quite important, the English climate and soil, and indeed the European climate generally, is much more moist than ours. It will never do to perfect American farming entirely upon an English model. But with good examples before you, we trust you will gradually "mend your ways," and roll on the car of progress and reform in this great and good business, at least as fast and far as the receipts shall seem to justify the expenditures. "Prove all things; hold fast that which is good."

Again: *We can save manures with more care, and apply them more copiously.* The Flemish people call manure the "god of farming." How it may be elsewhere, we know

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not; but certainly manure is the life of New England farming. In no point does the farmer suffer such enormous and disgraceful waste as here. It is no figure of speech to say that manure is half wasted, and more. And if we take into the account what might be saved, it is impossible to tell how much, but more than one-half or two-thirds of the fertilizing materials within your reach never find their way to the growing crops. It is said that the manure applied to the soil of England amounts in value to $300,000,000 annually, being "more than the value of all the foreign commerce," not including the loss from summer pasturage. We know of no reason why the value of the same article in our own country should not be at least nearly as much, say $200,000,000. If farmers waste one-half, the waste is prodigious. It is worse than throwing away gold by the solid cord. It is worse than making bonfires of bank bills. The half of even $200,000,000 saved, would do much toward rendering American farming a profitable business. And yet of that waste in part and parcel, we are bold to say that almost every farmer in New London County, and indeed in New England, is guilty.

Chemistry offers her suggestions here, invaluable if heeded. She teaches that that portion that can only be estimated by liquid measure, is as valuable as the solid, and must be saved, or we shall witness no great improvement in farming. She teaches that all animal manure no sooner passes out of the domains of life than it undergoes a change, a species of fermentation, and in that change, throws off various invisible but invaluable gases; so that when the thoughtless farmer wakes and when he sleeps, nay, when he is actually looking on and is, or should be cognizant of these matters by his senses, there is silently stealing up and off on the wings of the piratical wind, the very life of vegetation, the very essence of fertility, for which every drooping corn leaf on the premises sends in a most respectful and earnest petition.

Chemistry says, as the first and most needful improvement in farming, *save this enormous and useless waste;* if not by arresting the fermentation, at least by arresting the products of it when they escape. Establish a sort of "fugitive slave

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law,"—better here than elsewhere—and secure every volatile particle of manure that would escape from your service. And furthermore, chemistry gives you most full and reliable directions how to do this.

Are there piles of fertility lying exposed under your barn-sills and about your stable doors? Plainly it ought not so to be. You must introduce a roof between them and the open sky. In fine, wherever there is a particle of animal manure, liquid or solid, you must guard it sedulously from waste. Provide barn cellars for the congress of all manures to meet. The outlay would in most cases be returned to you in a few years. Or if this be not practicable, at least have tight stable floors. Save the tides of fertility that roll over them; they will float you on to wealth! Compost every particle of manure with several times its bulk of peat or earth. Pack it away in the cellar or shed, or in some way "put it under bonds" to make its appearance in the corn field at the next planting time. Stall your cattle in the summer season, at least at night. Save everything from house or barn. Let the drainage of the *sink* no longer *sink* into the thankless earth about the kitchen door; let them distil upon the compost heap or about the pear-tree. Send a collecting agent to the hennery. Let your growing thrift and economy send a *root* into the *sty* as well as the yard. Its inmates are the best chemists the farmer knows of. Keep them supplied with muck and peat; they will transmute it all into agricultural wealth. The phraseology should of right no longer be, *to make* manures, but *to save* them. Almost every farm has resources in itself, if properly saved, to convert it into a garden.

If it be asked, can we *not* buy manures, as guano and the like? We reply, that there is no objection to buying if you like, and in some cases it may be profitable to do so. But after all, it is poor policy to send half way around the world and invoke the contributions of the sea birds of the Pacific, when we have so much to waste at home. It is said that even in England, where they have arrived at a much higher degree of perfection than here, in the river Thames—after

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which, I suppose, *your* Thames was named—manure that is equivalent to 100,000,000 bushels of wheat, flows down to the sea every year, from London and other cities on its banks! And yet little attempt is made to save it. The same thing is even more true of our own towns and cities. The American farmer pays $12,000,000 annually for guano. One well remarks that *one* million spent in saving what is now wasted, would produce far more happy results. Can any one doubt it?

With your permission reference is here made again, and for the last time, to the husbandry of other countries, if not to provoke your imitation, at least to show you what room there is for improvement with us. Manure is saved with more care and spread with more liberality in Europe than on this side of the Atlantic. More is thought of liquid manures. In Belgium and Holland vats are provided, and the drippings of manure-sheds and stalls carefully husbanded. Indeed, *in* some recent cases in Scotland and England, *all* the manure is reduced to a liquid form by leaching and washing, and *then* by the aid of a steam engine and iron pipes, (of which there are many miles on some estates,) and branch pipes and hydrants and flexible hose, it is forced out and *showered down*, rain-like, on soil and crops, day by day. By this felicitous process, the land is both watered and manured at the same stroke. Under such a genial process you will not be surprised to learn that the soil exhibits wonderful fertility. It produces successive crops in a season. It rivals the land of Egypt in the days of Joseph, if not the land of Eden in the days of Adam.

Thus you will see, gentlemen, that there is room for improvement in saving manures. If saved thus, they will of course be more copiously applied.

So in many other ways, there is room for improvement. There is an urgent call for the application of more science and skill to every department of agricultural labor. There is room for the employment of more machinery and improved implements in the labors of the farm. The substitution of machine power for unassisted hand labor is destined, we doubt

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not, to work a surprising change in agriculture. Indeed there is very little that pertains to farming, in the herd or the pasture for the herd, in planting or harvesting, in cutting forest timber or raising fruit, in the farmer's mode of building his house or barn, or in the farmer's health even, that does not afford a sufficiently open and inviting field for improvement. Farming *is* an improvable business.

But, my friends, the lengthening shadows remind us that we must hasten to a close, and soon hasten home. We remark again, and finally: *The farmer can improve himself, and employ more skill and knowledge in the management of his business.* We wish now to change the drift of the discourse a little, from the farm to the farmer. We did not come down here to-day to speak merely of manure-sheds, and ditches and fat oxen. We expect to meet the farmer himself, who could stand up taller than the stateliest ox. The truth is my friends, we are not here so much to exhibit our cattle and the choicest of our crops, as *ourselves.* It is a sentiment of scripture, "how much then is a man better than a sheep!" We suggest nothing but the most obvious truth, when we say that the best way to improve husbandry is first of all *to improve the husbandman.* A stream is best purified at the fountain. Hence, we say that the farmer should be a man of more skill and knowledge, for several reasons. He will command more respect for himself and his business. A ministry will always be judged of by the minister. And again, he will apply that skill and knowledge to the more successful management of his business. The skill and knowledge we speak of, refers to many things.

In the first place, there is skill of handicraft. The hand can be educated as well as the head, and with far less trouble. There are many farmers who can perform every farm-labor to admiration, who are exceedingly deficient in mechanical skill. The possession of this would be a great improvement to such farmers. A short apprenticeship among tools, it may be of a month, if need be of a year, with a little self-instruction and practice, would be of great service, both for profit and convenience. It would, for many, be far better than a

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[illegible] a shop. [illegible] small [illegible] you [illegible] to have all [illegible] enough to perform any [illegible] of these processes. The farmer should have a shop as well as a granary. Let it be so finished that it may be comfortable and warm when the winter's snow is drifting against the window-pane. Have it hung around with tools. There you may most appropriately re-[illegible] in many a leisure hour, like the poet Cowper, happy in mending the old, if not in creating the new. You will find opportunities enough to practice. The farmer should be "cobbler" enough to draw a waxed-end through the leather of his harness; he should be "painter" enough to spread a little Venetian-red on his weather-beaten plow; he should be "dentist" enough to fix the teeth of his rake; he should be "cooper" enough to supply a missing hoop on his cider barrel: perhaps we should say, vinegar barrel!

Do what is necessary to be done. Learn, so far as you can, to do whatever must be done for you. To this extent be a "tinker," if the world pleases so to call you. If the mechanics laugh at you and call you a jack-at-all-trades, laugh back again, and tell them that this is better than to be merely a jack-at-one-trade! This practice will be of great service to you. It will save you trouble; the shop of the craftsman is frequently remote from your farm. It will save you your money, and at the same time not essentially injure the mechanics. But the saving of money, or indeed of trouble and time, is not the most important consideration; it will quicken your invention; it will enliven your mind, which is

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apt to become torpid in your laborious business; in a word, it will increase your skill and effectiveness as a farmer.

But to turn now from handicraft to knowledge in its usual sense. We must possess and acquire, if we do not possess, an aptitude to learn; we must disabuse ourselves, utterly and forever of the idea (too common in the farm-house) that we know enough already. The farmers too often suppose that old knowledge and old tools, are good enough. This has tended powerfully to render farming "a fixed fact." We must suppose that in every process and mode, improvement is possible and that there is hardly a man living who does not know more upon some subject than we do. We need not be of the number of those who are foolishly "given to change." But if any new truth, some improved mode of sowing carrots, of applying manure, of calculating the gravity of a hay-mow, floats before us in a newspaper paragraph, or in a public discourse, or in a neighbor's more successful method of farming, we should "take it captive on the high seas;" it is a lawful prize. As it was said by one of the ancients, "it is right to be taught, even by an enemy." If we find in ourselves remaining one trace of that ancient but still common antipathy to "book knowledge," we must purge it all away as we would rid ourselves of Canada thistles or wild turnips.

Read, listen, inquire. Take what is good, reject what is bad. If you doubt the propriety of what is recommended, try it on a small scale; "try the spirits." Do not hazard an acre to justify a promising theory. Prove it on a rod, and then, if it promises well, adopt it; if it fails, give it the go-by. Take the newspapers; read them while moist from the press; but never believe a half you read, till you have tried it. We can not prolong these remarks. We simply add upon this head, that we need almost all knowledge to qualify ourselves for perfect farmers. We need this for manhood, for scholarship, for happiness, as much as the men of any profession need it. Ignorance is not the mother of good farming, any more than it is the mother of devotion.

And then, we need a special training for our business.

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The minister must not only be educated, but especially educated, in the knotty points of theology, as "free will," "fixed fate" and the like; the doctor must understand the merits of rhubarb and the symptoms of a fever; the lawyer must have (it is said) a conscience a little hardened, and know how to tip the scales of justice a little out of a level, and "make the worse seem the better reason," or neither of these men is considered fit for his business. Allow me to say that the farmer needs a special training not less than they. It may not be in the classic streets of Cambridge or New Haven; he may be perfectly "obtuse" in Greek accents; he may never have walked a "foot" in Latin prosody; still, he must be educated for his business, or he is nothing better than a quack in agriculture, a pettifogger on a farm. Now, exactly of what this especial training shall consist, or where it shall be acquired, does not belong to me, or this occasion, to prescribe. Some recommend agricultural schools and experimental farms, and, without doubt, carry great weight with their suggestions. Still, it is obvious to remark that of all training, self-training is the best. That boy, yonder, just beginning to calculate the peculiar crook of the scythe-snath can yet make himself a "Master of Arts" in farming. But it must be by giving his winter evenings and wet days to study, and his whole life to inquiry, observation and thought. And, furthermore, this training should refer to everything you need to perfect yourselves in farming.

You need a knowledge of philosophy to teach you respecting the mechanical powers, and the flowage of water, and the nature and strength of materials. There is not a farming tool, even to a crow-bar or cant-hook, but what you will use more intelligently, if not more successfully, for a knowledge of the principles of Natural Philosophy. It were almost a shame for farmers to be ignorant of them.

You need a knowledge of chemistry; you need this above all. There is no art or science, that makes so many contributions to farming, as modern chemistry. Indeed, there is no branch of science that has discovered so many laws, wrought so many changes, originated so many inventions, as

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chemistry. It is almost the genius of the Arabian Nights, that could provide palaces, fairy-built, and floored with diamonds, in a single night. Agricultural chemistry is extremely benignant in her suggestions to the modern farmer. Is that land cold? chemistry stands ready with a recipe to warm it. Is it sour? her prescription will certainly bring it back to sweetness. Is it dry or knobby? with her wonderful alchemy she will both moisten it and grind it to powder. But it is chiefly in the matter of manures that the contributions of chemistry are valuable to the farmer; but of that subject we have already spoken and can not now return to it. We can only add that that farmer who is ignorant of the principles of chemistry, pursues his occupation at an unendurable loss. If sulphuric acid and sal-amoniac and hydrogen are hard names, and sound only like some remains of the trouble at Babel, we ask the farmer to study them, and the science that gives them birth, till they become as familiar as the names of his oxen.

Again, you need a knowledge of mathematics, which is, indeed, preparatory to all learning. Lord Bacon says, "If a man's wits be wandering, let him study mathematics." If farmer's wits do not sometimes wander, they are the only class of persons not troubled in this way. Of course, we need not speak of arithmetic and accounts, in this land of free schools; and yet, how many a farmer has discovered to a certainty, that farming is a poor business, simply because *he* was discovered to be a poor book-keeper. But no one will accuse us of wandering from the subject of mathematics, and especially from the subject of needed improvements in farming, when we say that farmers are sadly deficient in that sort of accuracy which it is the design of mathematics to impart. For instance, you apply so much manure to the *acre*, you raise so much to the acre, and farmer A has so nearly reached the millenium of farming, that he has raised one hundred bushels of corn upon an acre. But in how many cases do you suppose that a sworn surveyor would, like a quaker, even affirm that there were just one hundred and sixty rods and no more? Would it not be better to say,

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as in the language of deeds, an acre, "more or less?" So that an acre and raising so much to the acre, are expressions vague in the extreme. This is unworthy of good farming. If the business were not an intrinsically good one, most farmers would have failed long ago. Every piece of land on your farm which is worth cultivating well, is worth measuring well; and we need hardly say that accuracy here would pave the way for accuracy everywhere, as the better cultivation of one field is likely to spread its influence over the wall into the next. We say, then, to the farmer, have a "measuring-chain," as much as a plow-chain, and if ignorant, entreat the village-surveyor or village school-master, to show you how to use it.

Again, let the same principles extend to "weights and measures." Have a pair of "steelyards" that you can swear to; so that when you transfer your ownership in beef, and butter, and pork to others, you may not be obliged to depend altogether upon the affidavit of the butcher or peddler for the weight thereof. All that class of persons are extremely lie-able to mistake! Adopt the same "measures" with regard to your half-bushel and other denominations, both liquid and dry. The effect of such a system will soon be seen to the remotest bar-way on your farm. In many other ways, mathematics will aid you.

And so of *all science*, we remark that it will aid the farmer, and the more of the truths and of the apparatus of science we have to grace our homesteads, the better. For instance, how elegant and serviceable about the house will be a thermometer, a barometer, a rain-guage, and the like. How truly philosophical and valuable, even to farming, we ought rather to say, especially to farming, would be a series of observations upon these and kindred instruments, made and recorded for years.

And now to turn a little more directly toward literature. How truly graceful and profitable for the farmer will be the habitual use of the pen and pencil, as well as the fork and flail. To say nothing now of their more literary uses, or of accounts, how important that a "note-book" form a part of the furniture of every farmer's side pocket, in fraternal society

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with the jack-knife and chalk and leather strings. In this, or in some other depository, with every pecuniary transaction, all his experiments in farming (and they should be many) should be recorded, and their results. If, for instance, you *ash* a certain row of corn, or leave certain hills or rows untreated with the manure applied to the rest of the field, do not, as the custom is, mark the aforesaid hills or rows with a stake, always knocked down by the whiffletree, at the first hoeing! but record it. And so of every experiment and interesting event, and then carefully preserve the record, or at night or some suitable time, post off these items, as you would post off the contents of your day-book. In this way your business would soon become a more accurate business. Farming needs nothing now, so much as careful experiment and close observation on the part of the farming community. In this way, and in this way alone, what we suppose and *guess*, will soon give place to what we certainly know.

And do not forget the books in the more literary sense. We must sometimes retreat from the stable to the library, or there will be no essential difference between the horse and his rider. "Knowledge is power" here as well as elsewhere. We should cultivate our language; for we are bound to speak to our cattle in perfectly good English; and purity and correctness of expression have much to do with similar traits of thought. And oh, do not forget the claims of various and general knowledge. A few volumes of good literature, and even "poetry, heavenly born," laid upon the shelf, in the farm-house, and frequently used, will be of great service to refine your taste, and chasten your habits of thought, and shut out low associations, and "bless your doors from harm." These things will throw an air of taste around your labors and homes, and diversify, even beautify, so far as earthly things can, your common life. Spend a portion of every day in reading or study. Remember that no employment affords scope for more ample and varied knowledge than farming. Your business is to "cultivate the soil and the mind."

And do not say that you have not time for all these trades and books. "Life is short, and art is long," has long since

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passed into a proverb. Still, you have time enough if you will only improve it. In the many precious intervals of a farmer's life, when nature and providence are sifting down their snows on your acres, or watering the ridges thereof with showers, you have time enough to serve an apprenticeship at all these trades, and gather up much, oh, how much, valuable information contained in books, valuable both for self-improvement and for farming.

Gentlemen, we have thus treated this subject. If we have, in some portion of these remarks, wandered out of the beaten path, and spoken of some improvements in farming and the farmer, not ordinarily considered the products of a cattle show, you must pardon me for the motive, which is an earnest desire to persuade farmers that their office is, by well-developed characters, by intelligence, as well as by energy and skill in their business, to recommend their occupation. We must convince ourselves, and convince others, that husbandman and vulgar-man are no longer synonymous terms, if they ever were. We must improve ourselves, and thus advertise our business. We must cherish habits of sturdy independence. A brown, tough hand, and a sweaty face are no blemish upon true nobility; "a man's a man, for a' that." In the labors of our calling we are in excellent company:

> "In ancient times, the sacred plow employed
> The kings and awful fathers of mankind."

If some of finer cloth (not yet paid for) and smoother hand and face, still choose to despise our calling, and pronounce it vulgar and dirty, we can dispose of such raillery as did the celebrated Professor Porson, when once addressed by an enemy: "Professor Porson, I have a most contemptible opinion of you!" "Very likely," said the Professor, "I never knew an opinion of yours that was not contemptible!"

Allow me to say, to young farmers especially: Let us be studious and inquisitive, as well as laborious; let us be simple and frugal in our habits; avoid useless expenditures leave fine dress, and fast horses, and showy dwellings, to

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those who really need such things to recommend them. Let us ever remember that for health and substantial wealth, for rare opportunities, for self-improvement, for long life and real independence, farming is the best business in the world.

At the conclusion of the address, the following was unanimously adopted as the sense of the meeting:

Whereas, We, the people of New London County, this day assembled, are of opinion, that an *annual* Exhibition of the industrial products of the county would in a high degree promote the best interests thereof,

Therefore resolved, That we, each and all of us, Providence permitting, will, at some future Exhibition, furnish such products of our labor and skill as will add to the general pleasure and profit of these yearly gatherings of the people; and that we will, by every means in our power, endeavor to place our county in the front rank, as a Farming, Mechanical and Manufacturing County.

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At a meeting of the Executive Committee of the Connecticut State Agricultural Society, held at New Haven, April 19th, it was

Resolved, That in the death of Lemuel Hurlbut, of Winchester, we have to regret the loss of an efficient advocate and supporter of progressive agriculture in the State, and a valuable member of this Society, and that T. S. Gold, Esq., be requested to solicit from the family, such facts in the life of the deceased, as are of interest to the State, for record in the annals of the Society.

HENRY A. DYER,

Corresponding Secretary.

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Biographical Sketch of Lemuel Hurlbut.

No encomiums are needed from us to establish the reputation of Mr. Hurlbut as a thorough business man and a successful agriculturist. His credit extended with his business, and was bounded by no limits but our whole country. A plain statement of the leading facts in his history, may properly occupy a place in our transactions, though forming but a feeble tribute to his memory.

Lemuel Hurlbut was born in Winchester, October 20th, 1785, and died February 19th, 1856, at the age of seventy years. His father, Samuel Hurlbut, moved to Winchester from Torrington, about ninety years since. His ancestry appears among the early respected settlers of the State. Winchester was then a wilderness. He felled the first tree to let in the sun-light, and built the first house where the village now stands. He had seven children, of whom Lemuel was the youngest. An older brother, Samuel, who still survives, formed with him, the mercantile firm of S. & L. Hurlbut.

At the age of twenty-five, Mr. Hurlbut married Ann H. Phelps, the daughter of Col. Phelps, of Norfolk, who with five children is still living. The union of nearly half a century has served but to strengthen the bonds of mutual affection and esteem.

His oldest son, Samuel, is engaged in mercantile pursuits in Baltimore, while Lemuel, the youngest, succeeds to the management of the farm.

His early education was limited, but he acquired by travel,

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much practical information, (the best in the world,) which contributed to his success in business, and rendered him a fit associate for men in any circle of society.

At an early date, he began the improvement of his farm. Indeed, we think he was the first in this region to demonstrate the possibility of reducing the rough and uneven surface of our hills to smooth and fertile fields. In accomplishing this, he built more than one thousand rods of heavy wall, besides much of a lighter character. His aim was permanency and perfection in all his improvements. Where these walls were built, the surface soil was removed down to the hardpan and the trench filled with small stones. Thus, durability was attained, even upon a tenacious soil, and where the frost has great power. While his whole farm was well fenced and brought to as high a state of cultivation as its character required, about thirty acres were perfectly cleared, and showed what good husbandry could accomplish.

The cultivation of fruit also received especial attention. He was here a pioneer, as well as in every other department.

Among farm crops, roots, especially carrots, were much esteemed, and successfully cultivated. He was in the habit of feeding but little grain to his stock, but a good supply of roots was considered as an important part of the winter feed.

In his farm buildings, utility and adaptation to the object were consulted, rather than ornament. For the day when they were erected, they were patterns that any farmers might safely follow. His dwelling-house also, plain but well built, would not excite the jealousy of his less enterprising neighbors, while its neatness and convenient arrangement would satisfy the most fastidious.

In 1812, Mr. Hurlbut obtained some Merino sheep of Col. Humphrey's importation. These he continued to breed pure till 1824, when he began crossing them with the Saxonies. In that year, with Messrs. R. C. Abernethy, Samuel Lyman, and David Wadhams, he attended the sale of an importation of Saxony sheep at Boston. The descendants of the stock (eight or ten in number) then purchased, have proved to be some of the best fine-wool sheep ever introduced into the Uni-

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ted States. In a few years his flocks of pure Saxonies and Merinos rose as high as eight hundred, and before 1840, when he sold out his sheep, he had disposed of many thousands. With his purchase of sheep, he employed a practiced shepherd, and by suitable care, some years his flock was nearly doubled. The average weight of fleece for the entire flock, was about two and a half pounds, and often sold at one dollar per pound.

The sheep and lambs were sold at different prices, sometimes ranging as high as $200 per head. Thus, by good care and attention this most delicate breed of sheep were made to be highly remunerative.

About 1840, he purchased at Baltimore, a small flock of imported South Downs, which he continued to breed principally for the supply of his own table, for about fifteen years. The fine quality of their flesh was justly appreciated by him. Discussing their merits with me a few years since, he spoke in the highest terms of their value as mutton sheep, and said that he "could readily distinguish this mutton from other kinds when brought to the table."

Horses, as well as all other kinds of farm stock shared his attention. In the autumn of 1818, he purchased in Baltimore the very fine high-blooded mare "Jane on the Green," probably as fine an animal as was ever in the State, and from her and her progeny, he raised a very fine breed of horses. After about twelve years he relinquished this branch entirely, having become much engaged in raising Devon cattle.

In 1817, six beautiful North Devon heifers and a bull were sent as a present to Messrs. Patterson and Caton, of Maryland, by that distinguished agriculturist, the late Mr. Coke, (the Earl of Leicester,) of Norfolk, England. In 1819, Mr. Hurlbut purchased from this stock, the celebrated bull "Holkham," then a calf, and the next year two full-blood heifers bred from the same importation, "Fancy" and "Strawberry." These appear to have been the first pure Devons brought into New England, and from that time he spared no pains or expense in improving his stock, and it has

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often been remarked that "his herd of Devons had no superiors in this country or England." Holcomb proved a very superior animal, and continued serviceable till the age of seventeen years. Through the importations of Mr. Patterson and his own, purity of blood was maintained, while suitable crosses were secured.

During the thirty-seven years he was engaged in this business, he raised and sold over fifteen hundred head of Devons. His character as a man reliable for truth and veracity, has long since secured for him a ready sale for all he could raise, and the demand for this stock has been continually increasing, receiving orders from nearly every State in the Union, while no effort has been required in the way of advertising or public sales, to obtain this celebrity.

It would be difficult to estimate the increased value of the neat stock in the United States, from the infusion of Devon blood from this herd alone. Much of the beauty of New England oxen is due, at least, to a trace of Devonshire, while the high grades, as fancy cattle, are unsurpassed.

Among the earliest friends of the Connecticut State Agricultural Society, Mr. Hurlbut stands prominent. His council and advice were always encouraging, and in no small degree have tended to the success of the enterprise. His long experience and mature judgment, deservedly gave weight to his opinions.

He was also a steady supporter of the Litchfield County and Greenwood's Agricultural Societies from their foundation, and often most generously relinquished his claim upon premiums awarded to him. No one was better qualified to judge of the benefits of those organizations than himself, for he had probably attended more Exhibitions of this class than any other man in the country. By introducing new and improved implements and modes of culture, in addition to his stock-raising, besides receiving himself, ample remuneration, he has done much to promote the interests of agriculture, in our State.

The firm of S. & L. Hurlbut being large dealers in cheese, selling from 200,000 to 500,000 lbs. annually, Mr. Lemuel

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Hurlbut, having the selling of the article, was led to investigate the subject closely, and early introduced an improvement in its manufacture, by which it readily commands from thirteen to twenty cents per pound, wholesale, in the markets of Baltimore, New York and Boston. The uniform good quality thus produced, has so established its reputation, that the Astor House, St. Nicholas and others of the large New York hotels are supplied by them. This kind of cheese resembles the English "Double Gloucester." It improves by age and will keep in any climate. To be in perfection it requires to "see warm weather twice." It is perfectly solid, and when well made uniformly good, for as the whey is all removed, there is no fermentation to produce the rank and often offensive flavor found in common cheese. This improvement has been adopted not only in New England, but in Ohio, and is called "English Dairy." While common cheese is selling from seven to ten cents, this, with its imitations, for "English Dairy" is a favorite name bidding fair to rival "Goshen Cheese," ranges as high as twenty cents. Fashion or fancy does not make this difference, but its own sterling merits. It is not designed for immediate use, and other old cheese may be as good; but a great risk and uncertainty attends it. Connecticut is the fifth cheese-producing State in the Union, making, by the last census, 5,363,277 lbs., of which Litchfield county probably makes three million lbs. Now if by improving its quality, its market value is raised only two cents per lb., it would amount on the whole to more than $100,000 annually. No trifling sum in a list of farmers' profits. The Messrs. Hurlbut have not sought to make a private speculation of this business, and have derived no advantages from it beyond what others in the same trade have had an opportunity of doing, and the benefits arising from it have principally been enjoyed by the farmers themselves. No small share of the reputation of Litchfield county for its cheese, has arisen from the energy and judgment of the Messrs. Hurlbut, in developing her resources.*

* The perfect separation of the whey is effected by allowing the curd to drain lightly pressed or hung up in a cloth for a period varying from six to twenty-four

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As the oldest business firm in the county, and perhaps in the State, the Messrs. Hurlbut have enjoyed an enviable reputation for integrity and fair dealing. They have been engaged in trade for more than half a century, and have never had a case of litigation or even arbitration. If any have felt themselves aggrieved, a speedy and satisfactory settlement has been made without the aid of lawyers, and we have yet to learn of the first dollar lost through them by any one. Hon. P. Miner, who removed from Winchester to Litchfield in 1816, gave as his reason, "that no lawyer could live with them." Their punctuality probably tended as much to this result as any one cause, for many truly honest men are often involved in difficulty merely by neglect and inattention at the proper time to small matters. Lack of decision and firmness also have entangled many in the meshes of the law, who meant to live honestly.

The temperance reformation received their early and cordial support, and though engaged like others in trade, in the sale of spirits, it was speedily relinquished.

Since 1819, the Messrs. Hurlbut have bought no goods on credit, but have enjoyed for themselves and their customers, the full benefits of the cash system. They have been ready also to pay cash for their cheese if desired. The trust and confidence felt in their ability and integrity, has enabled them to trade on the most favorable terms. Their prompt assistance in pecuniary difficulty has saved many a homestead to its possessor, while principal and interest have been paid, with the thanks of the party relieved. No higher rate than six per cent. has been received for such service, though their position would have enabled them to demand much more.

Liberal supporters of society, for many years they have paid one-quarter of the entire expenses of the Congregational

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hours. It is then cut fine in a cheese-cutter, scalded with whey, salted and placed in the press. A casing of thin cloth is pressed on and they are treated like other cheese. Those made in the fore part of the summer are fit for the autumn market, while those made later are kept till spring. There is very little shrinkage thus made, and little risk in keeping, which forms a serious drawback with ordinary cheese.

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church in Winchester, and when a new church-edifice was erected a few years since, three-fifths of the burden was assumed by them. Their aged pastor, Rev. Mr. Marsh, though several years since relieved from his parochial duties, still resides in Winchester, and thankfully acknowledges their liberality in contributing to his support in his declining years.

It now only remains for us to speak of the character and habits of Mr. Hurlbut. Being strictly temperate in his habits, he enjoyed an unusual degree of health until his last sickness, and bade fair to live many years, although he had passed the age allotted to man.

His inquiring mind was not satisfied with common attainments. When traveling, he was continually adding to his stores of information, and even while immersed in the cares of business, he found time to attend lectures on anatomy and surgery, in which he became quite well read. Astronomy and the kindred sciences, all had their attractions for him, in common with the practical arts of life.

Frequent journeys to Baltimore, (which he visited in prosecuting his business, one hundred and seventy times,) and protracted residence there during the early period of his life, presented unusual facilities, which were richly improved. Thus he brought to bear upon his farming operations, a mind trained to reason, and a judgment improved by practice, and though lack of capital would deter most men from such extensive improvements in so forbidding a location, they were to him the source of much gratification, and yielded a fair profit. One hundred dollars per acre seems a large amount to expend upon farm land, yet if it will thus surely pay the interest of two hundred, it is a good investment. His success as an agriculturist, proves the value of knowledge to the farmer, and is one of the examples we have noticed of the successful merchant or professional man becoming also the more successful farmer.

Possessed of a glowing imagination and sanguine temperament, he used strong and impressive language, yet a strict regard for truth was ever maintained. The reputation

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he has gained as a breeder of fine stock, could only be secured by resting upon that for its basis.

His character as a religious man, did not become so generally known, as it was not till his later years that he professed a hope in Christ. Always moral and a regular attendant upon the ministrations of the sanctuary, about three years before his death he made a public profession of his faith. Before this time, when traveling, he always attended public worship on the Sabbath, and in Baltimore had a regular seat in church. His example here so worthy of imitation, we hope will be followed by multitudes of our young men called from home for purposes of business or pleasure. Do not leave the Sabbath at home, but let its return be regarded and welcomed wherever you may be.

The change in his views was radical and very satisfactory. This was fully manifested in conversation with friends months before his illness, but then his confidence became brighter and brighter, and the excellence of the Savior was to him so apparent that he often exclaimed, "How precious to me is the Savior!"

Profanity was always discountenanced and rebuked. It was not allowed in his laborers, as offensive to himself, and liable to contaminate his children and grand-children by familiarity. He often most truly remarked, that "profanity is the foolishest sin."

During the last year of his life he seems to have spent much time in meditation and preparing for its speedy termination. His instructions to his family, even before his sickness, give this indication. In a favorite orchard he had selected a place for a family cemetery, and desired that there he might be buried. The last visit he was permitted to make to it, was in company with a friend, to whom he indicated his designs and wishes.

His disease was a typhoid congestive fever, and though hopes were entertained at times of his recovery by his physicians, yet it baffled all their skill, and he died after a protracted illness of sixteen weeks. He retained his reason till near the close, and as he had no hope of recovery from the

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beginning, he attended calmly to the arrangement of his affairs.

After all, it is as a member of the family-circle and of society, that we must look for a development of the noblest qualities of men. Here where all the finer feelings are called into exercise, we find Lemuel Hurlbut sustaining the varied relations of a husband, father and friend, with rare fidelity. When some men die, the feeling prevails that their property has passed into better hands, where it will be more useful, and that they have stood in the way of better men. It is not derogatory to the living to say, that this was not the case with him. A void has been created not readily filled.

In his death his wife and children mourn an attentive and indulgent husband and parent, justice and integrity a tried and faithful adherent, the cause of agriculture a zealous and successful advocate, and the best interests of society and religion an active, judicious, liberal and devoted friend.

T. S. GOLD.

West Cornwall.

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THE HORSE.

BY DWIGHT MORRIS, ESQ., BRIDGEPORT.

THE first command given by the Ruler of the universe to the human race, was to subdue the earth, and "to have dominion over every living thing that moveth upon its face." For nearly six thousand years has this injunction been gradually fulfilled; and as man has emerged from a state of ignorance and barbarism, with the aids of civilization and science, he has fully asserted his power over every species of the animal creation. By his superior knowledge and skill, the huge denizen of Asiatic forests has become obedient to his will; while on the arid sands of Africa, the patient camel becomes his humble assistant and servitor. From the earliest ages, too, the bovine races have not only contributed to his food and nourishment, but have shared his labors in tilling and cultivating the soil. But amid all the animals vouchsafed to man by a beneficent Creator for his assistance and recreation, in intelligence, in beauty, symmetry, docility and utility, the *horse* stands proudly preëminent. By his acknowledged qualities, he has been elevated from the wild and untamed roamer of the prairie or pampas, to the companionship and friendship of his master. The period when the horse was first subjugated to man, will never be ascertained. No record, no tradition even, exists of a time when the horse lived without allegiance to our race. The pen of inspiration represents him as the sharer with man in his contests and battles: "he paweth in the valley, and rejoiceth in his strength; he goeth to meet the armed men; his neck is clothed with thunder." Profane history also informs us, that the chariot with horses, was the usual and most formi-

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dable instrument of war, in the remote ages of antiquity. Authors, however, are divided in opinion as to the time when men first accustomed the horse to the use of the saddle. It is somewhat singular that most of the earliest accounts, represent the horse as originally used in harness only. The Scholiast of Euripides, and Eustathius, on the second book of the Iliad, speak as if the ancients had been unacquainted with the use of saddle-horses, and had only used them to draw chariots, &c. They add, that courses on horseback were not introduced at the Olympic games, before the fifteenth Olympiad. But this can not be the fact, because Homer, though he mentions only chariots in his account of the siege of Troy, speaks of riding so familiarly in some parts of his Odyssey, that it must have been practiced among the Greeks long before he composed his immortal poem. Herodotus, in Thalia, speaks of hunting on horseback, as an exercise practiced in the time of Darius; in Melpomene, likewise, he says the Amazons hunted on horseback, with their husbands, the Samaritans. Xenophon says, that Cyrus hunted on horseback, when he desired to exercise himself and his horses. Pausanias, also, informs us that there were horse-courses even in the time of Hercules, the institutor of the Olympic games. It therefore appears from the most ancient history extant, that the horse was made subservient to the will of men, in the earliest times, and therefore the use of this animal is almost coeval with mankind.

At the present time, horses are found in a state of nature, living as wild animals, in various parts of Asia, Africa and America. In the desert tracts which border the river Don, in Russia, there are numerous herds of wild horses, which have sprung from their emancipated progenitors. These herds are descended from the horses used at the siege of Azoff in 1696, Peter the Great, having been compelled at that time to set at liberty all of his cavalry horses, from want of forage. The present emperor of Russia has two regiments of cavalry mounted on horses crossed with this breed, which attract much attention on account of their unusual size. It is believed that the wild horses found in the plains

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of Tartary, are descended from the same source as those of the banks of the Don and Ukraine.

The fact is also well known, that on the vast plains of South America, immense herds of wild horses are to be found; and it should likewise be borne in mind, that these myriads in number, are all descended from only two males and four females, which were emancipated by the early Spanish adventurers. They have increased with such astonishing rapidity, that their numbers *can not* and will not ever be ascertained.

The first animals brought to America from Europe, were imported by Columbus in his second voyage in 1493. He left Spain with seventeen ships, bringing a number of horses, with other domestic animals. The first horses brought into any part of the territory at present embraced in the United States, were landed in Florida, by Cabeca de Vaca, in 1527, forty-two in number, all of which perished or were otherwise destroyed. The next importation was also to Florida, by De Soto, in 1539, which consisted of a large number of horses. In 1604, M. L'Escarbot, a French lawyer, imported a few horses into Arcadia. In 1609, three ships from England, landed six mares and one horse at Jamestown, Virginia. In 1629, the first horses were introduced into New England. They were imported by Francis Higginson, formerly of Leicestershire, England, whence the horses were brought. The first importation into New York was made from Holland by the West India Company in 1625, consisting of quite a number of horses for breeding.

By the last census in 1850, the number of horses in the United States, is about four millions and a quarter. This statement is not correct, inasmuch as great numbers were omitted, the census of 1850 including only such as are employed in agriculture, or owned by farmers. The horses owned in all the cities of the Union, are *entirely* omitted. If these were added, we shall find that the United States contain more than five millions of these noble animals, constituting a proportion of one to every five of the inhabitants. The number of horses in the Union, is more than three times

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larger than that in Great Britain. Our present stock consists of the offspring of the animals first introduced, the crosses of the original breeds with each other, or the intermixture of the progeny of these crosses with those of more recent importation, and the pure blooded animals brought directly from Europe, or the crosses of these with each other. Therefore, in the United States, the breed of horses is as mixed as that of the inhabitants, the frequent introduction of foreign horses having produced an infinite variety.

From the attention which has been paid in some portions of our country to the rearing of this species of animal, and by the judicious mixture of breeds, as well as a careful observance of every circumstance proper for improving the good qualities, and correcting the defects or imperfections of the horse, we now have horses famous for all the different excellencies of those of other countries.

We propose to present a few considerations on the breed of horses in New England, and to examine the origin of the most celebrated families, and to make some suggestions respecting their deterioration.

Of all the New England family or variety of horses, the *Morgan horse* is the best known, and most widely celebrated. They are principally valued as light carriage and buggy-horses, and are noted for their remarkably spirited action and uncommon docility. No breed of animals in New England, has as many warm admirers, and their popularity always insures a ready sale. What is the basis of this reputation, and how much of the pure blood of the Morgan horse is in existence at the present time? No person living can show that there was any blood in the dam of the Morgan horse; at all events the proof is wanting. In reference to the sire, the best authorities concur with the following views. The original "Morgan" was purchased at Springfield, Mass., in 1795, by Mr. Justin Morgan, of Vermont. At this time, the colt was two years of age. His sire was "True Britton,"* son of "Moreton's Traveler," whose pedigree runs directly

*Not True Britton, by Othello, mentioned in the English Stud book.

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back to the "Godolphin Arabian." The question then arises, how came True Britton in New England, and who imported him? In 1777, General Delancey was in command of a battalion of English troops, consisting of tories and refugees, on Long Island. He possessed great taste in horse-flesh, and brought over Lath and Wildair, both thorough-bred horses, and likewise True Britton. Wildair evinced such decided superiority, that he was afterward sent back to England. In the fall or winter of 1777, True Britton was captured by a few daring patriots, and brought across Long Island Sound to the eastern shore of Connecticut. There is not therefore any doubt as to the fact that the ancestor of the Morgan was *thorough-bred.* In reference to the blood of the dam, however, nothing is definitely known. She is described by a gentleman* who knew her and recollects her appearance, to have been of "middling size, with a heavy chest, of a very light bay color, with bushy mane and tail, the hair on the legs long, and a smooth, handsome traveler." Her sire was a horse named "Diamond," but of him nothing whatever is known. The inference may *perhaps* be drawn, that the dam of the "Morgan" had *some* blood in her veins, but we believe that no one will for a moment suppose her to have been *thorough-bred.* The immediate descendants of the Morgan had a mixture of worthless blood, to the full measure of one-half; and as we progress from the year 1800 to the present time, we may safely set down the Morgan blood now or hereafter to be produced, at an amount not exceeding *one-sixteenth.* Let us examine facts for a moment, in illustration of this position. Morgan Black Hawk was sired by Black Hawk, he by Sherman Morgan, and he by Old Morgan; therefore Sherman Morgan was a half-blood, Black Hawk one-fourth blood, and Morgan Black Hawk only one-eighth of Morgan blood. Still he is a good horse, (size only excepted,) and his other crosses being of blood-stock, *from this* his superiority is derived, and but very little is to be attributed to the diluted Morgan blood. From this

* Mr. F. A. Weir, of Walpole, N. H., who quotes from Mr. John Morgan.

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it will be evident to every careful observer, that the importance which is attached to the Morgan stock, amounts to absolutely nothing.* In short, the great characteristic of this family, small size, (they generally weighing much short of one thousand pounds,) their want of *length of stride*, their universal tendency to the accumulation of fat instead of muscle, their lack of being *all day horses*, must, in the mind of every reflecting man, absolutely negate the popular idea of their fabulous superiority. No horse can be considered perfect, without *size;* this being, in our opinion, the most essential point. Whenever a well-bred horse of proper size, meets with an accident, or suffers from the milder forms of disease, *his place* can be found without difficulty. He will not be unfitted for the labors of the heavy wagon, the plow, and all the incidentals of agricultural life; but aside from the light wagon, the drive about town, or on the road for a dozen miles, the Morgan of the present day is almost useless. He is a fine plaything, but for anything like *work*, some different variety of horse must be selected.

In years by-gone, the State of Connecticut could justly claim a breed of horses, which were surpassed by none. They consisted of two varieties, the "Messengers," confined almost exclusively to that portion of the State lying west of the Connecticut river, and the "Narragansett," of the east.

The founder of the former family, "Old Messenger," was imported directly from England, and came into the possession of Major Hickok, of Danbury, a few years after the

* The original "Morgan," left but four colts to perpetuate his species, as follows:

I. "Revenge," foaled at Claremont, N. H.; his dam a "middle-sized white mare, of no blood."

II. "Sherman Morgan," raised in Lyddon, Vt.; dam a "chestnut mare of light bone and no blood."

III. "Bulrush," raised at Tunbridge, Vt.; dam a "thick, heavy, dark bay, and lazy mongrel."

IV. "Woodbury," also from Tunbridge; dam a "bay mare weighing about 1,000 lbs., a smart fair driver."

This last was the sire of "Gifford Morgan," and the best colt from the old horse.

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burning of that town by the English, during the Revolution. No horse possessed greater power of transmitting his qualities to his descendants. The old proverb, that "like produces like," in his case was fully verified. It is deeply to be regretted that all traces of his pedigree have been obliterated by the lapse of years. The most valuable trait in this family of horses, was their extraordinary powers of endurance. In trotting a single mile, they were frequently easily beaten, but on the road for fifty miles or more, their performances stand unrivaled. When it is remembered that the blood of "Old Messenger" was mingled from the beginning with the inferior and ordinary stock in his vicinity, those who have been familiar with his progeny, will consider him a horse of matchless power. He did not possess a good disposition, and wherever one drop of his blood is found at the present time, there is to be discerned no evidence of kindness of temper or of ordinary docility. The qualities of this breed were not developed until they arrived at the age of eight or nine years. After this period, until they reached the utmost period of equine longevity, twenty or twenty-five years, their power and vigor was unabated. Age never seemed to tell upon them, but for tenacity of life, iron endurance and perfect constitution, their superiors have never existed in New England. This family strongly resembled each other, and the following description applies to all of them as well as to their famous progenitor. Ears fine, rather short and erect; large and prominent eyes; forehead very prominent between the eyes; face dished below; large open nostrils; thin under jaw; a neck finely protruding in a short arch from the body, and universally speckled with gray hair; short strong back; round body well ribbed up; deep chest; fine flat shoulders; a wide muscular arm; large, well-knit knee-joints; the leg short, fat and fine to the pastern; hoofs open, wide and clean, with rather high heels; deep muscular quarters; hind legs a little longer in proportion to the fore legs, and well bent under the body; strong hocks; round full croup; tail handsomely set, strong and bushy; height nearly sixteen hands, and rather pony built.

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"Ripton," who was raised by Mr. Meeker, of Westport Ct., is said to possess some of the Messenger blood on the maternal side, although but little is known of his parentage. From his performances on the turf, all must allow that he possessed "blood" which "told" enough to ensure his reputation as a trotter, and to satisfy the most sceptical, that Fairfield county has formerly possessed the elements of splendid stock. Ripton, beyond a doubt, had a cross of vulgar blood, and he was an exception to the general rule, that careful breeding is necessary to perfection in the horse, precisely as two noted exceptions existed in England, in the cases of Sampson and Bay Malton, each of whom, notwithstanding their wonderful performances on the course, possessed some inferior blood.

The Narragansetts of eastern Connecticut, for speed and endurance, are entitled to the highest commendation. They were pacers, and although their gait would, or rather *ought* to debar them from participating in the contests of the course, still, as saddle-horses, they possessed no superiors. Their performances, in speed and endurance, have never been equalled in New England. They accomplished from eighty to one hundred miles in a day, without the slightest apparent injury. No breed of horses possessed their powers, excepting only those Mustangs of California, described by Col. Fremont and others.

Their origin has been attributed to a cross with the native Indian pony. But their size, (full sixteen hands,) their length of stride, their thin necks, their wide chests, fully disprove this supposition. It is unnecessary to repeat, that for service and endurance, this family were excelled by none.

From the foregoing statement, we perceive that the State of Connecticut *has* possessed two distinct and valuable breeds of horses. Both of them have almost entirely disappeared, in consequence of neglect and inattention to this important subject. Ought this state of things longer to exist? Is there any reason why the State of Connecticut should continue behind her sisters in the propagation and rearing of this most valuable animal? No agriculturist will deny, that the ex-

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pense of raising an inferior colt and a truly superior one, is equal. It would seem, then, that our farmers do not exercise their usual sagacity and shrewdness on this point. If they have no feeling of State pride, if they have no ambition to place our State second to none in the qualities of her horses; even their own interest ought to stimulate them to make some effort at least, to restore our reputation to that position which Connecticut enjoyed in the days of infancy.

Attention to a few well-known principles, together with judicious selections of stock, is all that is required. The circumstance which the breeder of horses requires to keep most in mind is, that the qualities, good or bad, of the animal, are hereditary. Finely made horses produce similar descendants and *vice versa;* heavy horses never produce animals possessing the qualities of speed. The bone, blood, and general form are directly transmissible; and in case of crossing, the produce is found to possess a proportional share of both sire and dam. Cross-breeding between extremely different horses is not advantageous; it being a generally recognized principle, that the nearer the resemblance between the parents, so will the produce be more satisfactory. The great aim of the breeder should be the propagating of excellencies and avoiding defects; and any farmer by care and attention, may produce this result. Some parts of our own State, and certainly many localities in New York, will supply the elements of an improved breed; and it only remains that the requisite skill be employed in the selection, and continued in the propagation. The great, and very general mistake committed in Connecticut, consists in thinking that any shape or sort of animal on the female side is "good enough to breed from." Accordingly, we find even at our county fairs, young animals without one single point of recommendation; frequently disagreeably marked, and every point of excellence wanting. We believe that quite as much, if not more, depends on the dam as the sire. The female will impart size, strength and vigor of constitution, capable of performing any work that is required; and the male will supply spirit and muscle to put the strength into action in

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any emergency. Experience has fully shown that no animal is more liable than the horse, to transmit blemishes as well as beauties, and that diseases of all kinds are inherited by the progeny; if not in the first generation, they are sure to appear in that immediately succeeding. This consideration increases the necessity of a judicious selection, for the propagation of disease is even worse than unsightly forms and condemned points.

The qualities of the male also, require examination; for though the best animals are usually kept for propagation, yet a discrimination is absolutely necessary. The animal should be clean limbed, with a flat, thin bone; barrel round and carcase light; lofty oblique shoulders, tapering withers, arched neck, and small head; eye prominent and impetuous; ears fine and quick in motion, jaw-bone narrow, and the muzzle tapering.

An old writer, Camerarius, says, "A perfect horse should have the breast broad, hips round, and the mane long; the countenance fierce like a lion, a nose like a sheep, the head, legs and skin of a deer, the throat and neck of a wolf, and the ear and tail of a fox."

The greatest and closest observer of nature, Shakspeare, in the loves of Venus and Adonis, gives the following beautiful description:

> "Round hoof'd, short jointed, fetlocks shag and long,
> Broad breast, full eyes, small head, and nostril wide,
> High crest, short ears, straight legs, and passing strong,
> Thin mane, thick tail, broad buttock, tender hide:
> Look, what a horse should have, he did not lack;
> Save a proud rider on so proud a back."

The management of horses is of the next importance to their breeding, but it is unnecessary to discuss that subject here. I can not refrain, however, from referring to two abominable practices which have been more conducive to the injury of the constitution of the horse, than all others combined. I refer to the brutal and cruel practice of *docking* and *nicking* horses. The idea that the Creator has left any por-

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tion of his work unfinished, and that man can improve upon it, is not only absurd, but blasphemous. A long, flowing tail and mane were given to the horse, not only to increase his beauty, but were also intended as a means of defence. In depriving the horse of these, we not only make him an unsightly deformity, but we expose him to excessive annoyance through all the months of summer and autumn. But this is not all. An intelligent English writer relates an instance of a hunting horse, which could carry its rider over the highest five-barred fence with ease; but thinking his horse "did not carry his tail quite right," the owner had him nicked, and when he apparently recovered from the operation, he could scarcely carry him over two bars. The difficulty was, that cutting the muscles of the tail, weakened the animal in *the loins;* and this is the invariable result of this vile *horse-jockey* practice.

Another custom which universally prevails, and is absurd and senseless in the highest degree, is the *check-rein.* This arrangement is not only unnatural, but the horse is seriously constrained by it. He necessarily loses strength, for it disturbs the vital force, and induces an unnatural action in the muscles of the neck, head, shoulders and mouth. This stupid contrivance deprives the limbs and chest of energy and vigor. Look at the horse, when the check-rein is loosed after driving him rapidly any distance, and he universally stretches out his neck and hangs down his head. He thus tells you in language not to be misunderstood, that the strap hurts and wearies him, and that he is heartily rejoiced to be relieved from it. No people use the check-rein except ourselves and the English. The French never use it; the Germans do not, nor do the Spaniards or the Cossacks, the best horsemen of Europe. Neither do the Indians and Spaniards of this continent, who live on horseback from childhood. We hope to see the check-rein abolished in this country, as it is only an imitation of a foolish practice in England, and is not entitled to the slightest consideration. It wastes the motive power. Its use is unhealthy, for it disturbs the otherwise naturally and equally distributed vital forces. It shortens the

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life of the horse; it diminishes his speed, and lessens the free and quick action, so essential to the safety of the animal and his driver. In short, it is of no use, and imparts neither dignity nor grace to the animal.

In conclusion, let us repeat that the horse is the most important animal which has been provided for the human race. Without him, it may be asserted, that man could not have reached his present degree of civilization, nor have been able to overcome the numerous obstacles to comfort and happiness. The want of these animals was one of the principal causes which rendered the aboriginal inhabitants of this country, so inferior to their invaders; and the decided superiority of the white man over the Indian, was owing almost as much to the horse, as to the knowledge of fire-arms. In fact, next to the want of iron, the want of horses is perhaps, one of the greatest physical obstacles to the advancement of the arts of civilized life. Let this beautiful animal, then, be fairly treated; let the old Anglo-Saxon doctrine of "fair play" be applied to him; let his culture, his education, size, form and action, all be regarded with care and attention by our intelligent farmers, and in a short time the fertile valleys of Connecticut will be filled with a race of horses, to which we can proudly point as a noble memorial of the intelligence, skill and scientific knowledge of her thrifty tillers of the soil.

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CULTURE OF WOOD LANDS.

MR. DYER—DEAR SIR: I avail myself of your invitation to say a few words on this subject, only regretting that it is at present possible for me merely to call the attention of my brethren of the Society to it, for I would gladly devote time and space to its more extended consideration in a practical view.

If we think of it, we must all be painfully impressed with the disappearance of the noble woods through which, as boys we wandered, and in whose deep shades the highways wound for miles. We shall mourn the indiscretion that has laid bare our wooded hills and given to the plow, land which can yield but a few moderate crops before it must show that the soil is not of a character to be profitably tilled. Hence, the acres upon acres of "bush pasture," which afford scanty subsistence even for a few sheep, that once supported a heavy growth of timber, where the broad stumps still stand in evidence, a testimony against the policy that keeps them as they are.

There is a vast consumption of wood in this State; our railroads and steamboats and factories, use it to a great extent, as fuel; it is still the common fuel of the country, and for the purposes of building, there is now more used than ever before, although so many other building materials are used also as substitutes. The amount of fire-wood and lumber imported into the State annually, is very great and constantly increasing. It should be our policy to stop this drain of money and turn it into our own pockets.

We have as fine timber land as can be found in the world,

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perhaps, and our native timber trees adapted to our soil and climate, are all that we can desire. In general, I believe our trees grow more rapidly than those of Europe, yet for the purposes of the arts, are fully equal, if not superior. It may be a question whether to raise the timber for which there is the greatest demand, and which in our forests is most abundant, or that for which a peculiar market is found, and for which high prices are paid. Doubtless any kind will amply reward the planter, and a mixture of various kinds might be advisable. What a noble list may be named of woods in constant demand. White oak, white ash, chestnut, hickory, red beech, rock maple, tulip tree and elm, white pine, hackmatack and red cedar, each will find a ready market, and each the land suited to its growth.

Before any one will undertake the cultivation of land for wood, he must be convinced that it will be profitable. The elements of a calculation to determine this are, the value of the land, the cost of planting, the care to be given, the risk from fire and other accidents, the length of time to be allowed for the growth of the timber, and its value at the end of that time. Each man must make his own calculations, and it will not be difficult to arrive at proximate results. Much land may be set down as of almost no value at all as it is now, not worth the timber to fence it, and producing no more than a few quarts of blackberries, and huckleberries, or a few white birch bean-poles. The cost of planting will vary with the kind of wood which it is desired to grow. Chestnuts come easily from seed, and bear transplanting when small very well, but require a tolerably good and moist soil, which, however, may be very stony. As we all know, they grow with great rapidity, and the timber for fencing, railroad ties, etc., is in great demand. The maple comes readily from seed also, as does the ash, oak and hickory, and there is no difficulty in obtaining the seed for these. The beech is a very irregular bearer, and an abundant beech mast is a rarity, so far as my experience goes, in Connecticut. It is a very valuable wood, a straight and tolerably rapid grower when in masses; takes care of itself, and abundantly repays culture. The cuts may

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be obtained without difficulty, from some part of the country where there may happen to be a full mast. It is especially the case with this as it is with many other forest trees, that for the first few years they need the protection from the severity of winter and from the heat of summer, afforded by the shade of other trees, which, however, if too dense, will check or prevent their growth. Our climate differs so much from that of European countries, that it is impossible at present to recommend any course of proceeding, with the great accuracy which European foresters, and works on forestry direct. This will come as our knowledge of facts and experience increases.

Evergreens, pines, spruces and hackmatacks, are best planted in rows, at equal distances of five to eight feet apart; they will bear the light but not the wind, when very young, but will do well anywhere when once well rooted, and doubtless may be made profitable on the blowing sands which are such annoyances, and such blemishes to our State. It is usually customary to sow the seeds in a nursery and then to transplant them when a foot to a foot and a half high. This can not increase the labor very much, while it will give greater certainty to the whole operation, and besides a year or two start.

The care which is required by the young wood, for some years rapidly decreases, as the stand becomes more mature. Some will die from the effects of drought, or they may be broken by the wind or hove by the frost, or trampled upon or browsed by cattle, and of course attention will be required to prevent these accidents and to replace the trees when they fail.

There are recognized two distinct kinds of forest culture, the one when timber is the end, in which case the trees are allowed to attain their maturity and a diameter of some eighteen inches to two feet, before cutting; the other, when bark, charcoal, fire-wood, fencing stuff, or hoop-poles, etc., is desired, when the wood is cut after a few years growth, and as soon as the trees have reached a sufficient size to make it profitable.

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In this latter case, no trees can be profitably grown that do not start vigorously from the old stools, like the chestnut and some kinds of oak, and when the ground is of a character to produce a thrifty growth, this is the most profitable kind of forest culture. We find it not unfrequently practiced hereabouts, especially with the chestnut, and with a little care to have the whole ground covered, and when cut, to have all cut off down to those not more than a few feet in height, so that all shall have a fair start again, it will pay well. Such land may be cut over after the first time, once in from ten to twenty years, according to the use to which the wood is applied. In Europe, the oak and some other trees are raised extensively for their bark; before they attain much height, they are cut when full of sap, the bark bruised and stripped off by children, even from twigs of the size of one's finger. It is used for tanning, and the wood burnt for charcoal or used as fire-wood.

It is by no means a difficult matter to decide what kinds of trees will do best upon a certain piece of land, as by comparing the ground with that upon which a good growth of wood may be seen in the neighborhood, or by following the indications of nature in observing what would come in, if left to itself. If care is taken after wood is cut to have the young trees start evenly all over the piece, to keep out brambles, and to set out trees where there may be vacancies, the stand will be even and handsome and the timber much more valuable than if left to come on as it best can.

In the countries of Europe, the cultivation of timber and coppice wood is reduced to a science. Germany is particularly fortunate in having had a large portion of its territory kept in forest, to afford to their princes and nobles, the exercise of the chase. These forests are now guarded with the most assiduous care, and on the whole, have neither increased nor diminished, to any marked extent, for many years. France had before the revolutionary period of its history, nearly or quite one-third of its territory covered with timber. This was reduced to less than one-twelfth, and had disappeared almost altogether from the country, except the moun-

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tainous districts, before modern science and energetic measures taken by government caused its cultivation to be renewed. But little of this has yet come in to affect the market, and fire-wood bears a fabulously high price in France, and even in that mild climate there is yearly much suffering caused by its scarcity.

Wood is an article which from its bulk, rises rapidly in price when transported far, unless conveyed by water. The forests of Maine supply now, untold quantities of pine and oak, as do also those of Nova Scotia and Canada; but as year by year the ring of the axe recedes from the shore, and that most available is sent to market, the price rises of necessity. This will no doubt be the case for many years to come, and the inducements now to plant timber woods are most encouraging. Land covered with a young, thrifty growth, whether of timber or coppice wood, will be well appreciated, the better, the more carefully it is cared for. In fact, I do not doubt that any piece of wood-land upon which is as strong a stand as it is capable of sustaining, scientifically planted and treated, will bring a price, if sold any time after the trees have gotten a good start, greater than its real value.

It is the privilege of the State to encourage experiments in whatever may evidently conduce to the welfare of its population. We need greatly, accurate knowledge in regard to this science of planting and raising wood for all the various purposes of the arts and common life. We need statistics of the annual waste of our forests, and of the land lying barren, capable of their production. Such statistics would alarm our most careless political economists. Would that I could present them; indeed, they are not needed to convince any who will turn candidly their attention to the subject, yet we hope before another year, to be able to present some reliable ones bearing upon it, and to this view invite correspondence.

M. C. WELD.

HARTFORD.

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